Proficy* HMI/SCADA - iFIX

GETTING STARTED

Version 5.5

January 2012

All rights reserved. No part of this publication may be reproduced in any form or by any electronic or mechanical means, including photocopying and recording, without permission in writing from GE Intelligent Platforms, Inc.

Disclaimer of Warranties and Liability

The information contained in this manual is believed to be accurate and reliable. However, GE Intelligent Platforms, Inc. assumes no responsibilities for any errors, omissions or inaccuracies whatsoever. Without limiting the foregoing, GE Intelligent Platforms, Inc. disclaims any and all warranties, expressed or implied, including the warranty of merchantability and fitness for a particular purpose, with respect to the information contained in this manual and the equipment or software described herein. The entire risk as to the quality and performance of such information, equipment and software, is upon the buyer or user. GE Intelligent Platforms, Inc. shall not be liable for any damages, including special or consequential damages, arising out of the user of such information, equipment and software, even if GE Intelligent Platforms, Inc. has been advised in advance of the possibility of such damages. The user of the information contained in the manual and the software described herein is subject to the GE Intelligent Platforms, Inc. standard license agreement, which must be executed by the buyer or user before the use of such information, equipment or software.

Notice

©2012 GE Intelligent Platforms, Inc. All rights reserved. *Trademark of GE Intelligent Platforms, Inc.

Microsoft® is a registered trademark of Microsoft Corporation, in the United States and/or other countries.

All other brands or names are property of their respective holders.

We want to hear from you. If you have comments, questions, or suggestions about our documentation, send them to the following email address:

doc@ge.com

Table of Contents

About This Guide 1

Reference Documents 1

General Installation Information 3

Set-up Overview 3

Hardware Requirements 4

Recommended Computers 14

Memory Requirements 15

Disk Space Requirements 15

The USB Key 16

Software Requirements 19

Third-Party Software Installed During the iFIX Install 21

Supported Regional Settings 21

Language Support 22

Video Drivers 24

Using Third-party Video Drivers 24

Optimizing Virtual Memory 24

Running iFIX as a Service 25

OPC Certification 28

Installing the iFIX Software 29

Installing the iFIX WebSpace Server 34

Manually Installing the Proficy Historian for SCADA Software 38
Using iFIX with Proficy Historian for SCADA 39
Configuring Security When Using iFIX with Proficy Historian 42
Configuring iFIX to Use Proficy Historian for SCADA 42
Using the Discover and Auto Configure Tool with Proficy Historian 44
Online Registration 45
Additional Resources 45
Using iFIX and FIX on the Same Computer 46
General Notes on Installing FIX and iFIX on the Same Computer 46
Installing iFIX on a FIX 7.0 Node 46
Uninstalling iFIX and FIX 7.0 46
Starting up FIX 7.0 After Installing iFIX 47
Installing iFIX after Uninstalling iVisualize 47
Using iFIX with Microsoft Office 47
Backup Files 48
Proficy Change Management and iFIX 49
iFIX WebSpace 49
Discover and Auto Configure 49
Optional Hardware 50
Installing the FIX Desktop and Classic Historian Software 50
Uninstalling iFIX 52
Sleep or Hibernate Mode 52

Upgrading from an Earlier Version of iFIX 53
The Database and the Upgrade 53
SCADASync.ini File and the Upgrade 53
iFIX WebSpace Administrator and the Upgrade 53
DDA Drivers and the Upgrade 53
Before You Upgrade 53
Steps to Upgrade from an Earlier Version of iFIX 54
Upgrading the iFIX License 55
Upgrading from iFIX 2.6 or Later 56
Upgrading from iFIX 2.5 and Earlier 56
Preserving Settings when Upgrading 57
Notes on Database Dynamos and Custom Programs that Run with iFIX Startup 57
SCU Files and the Upgrade 57
Enhanced Failover and Upgrading 59
Title Bar in iFIX WorkSpace 61
Programs that Run as a Service with iFIX 61
Toolbars 62
Standard vs. Classic Window Styles 62
Changing Permissions for PlugAndSolve and User Globals 62
GeneralDataSet Object Replaces the HistoricalDataSet and RealTimeDataSet 63
Advanced Historian Not Supported 63
Proficy Historian for SCADA 64

Upgrading Pictures 64
Compatibility of iFIX Pictures 64
Resolving iFIX Displays 65
Converting Pictures from FIX 7.x to iFIX 65
Running Pictures Created in an Older Version of iFIX 65
Using Code Written for Pictures in iFIX 2.1 65
Database Dynamos 66
Historical Datalinks 66
iFIX Dynamo Sets 67
Deleting Temp Directory Contents if iFIX Installation Fails 67
Alarm Summary Objects and Picture Translation 68
Upgrading from FIX 7.x 71
Preparing for the Upgrade to iFIX with FIX Desktop 71
Preparing the Recipe Files for the Upgrade 72
Preparing the I/O Drivers for the Upgrade 72
Checking the Environmental Protection Settings 73
Backing Up FIX Files 74
Exporting a Report of the Security Configuration 76
Adding Passwords to the .RPT File 76
Generating a System Configuration Report 77
Overview of Steps to Upgrade from FIX 7.x 78
Update Database Dynamos 79

Install the Newest Drivers and iFIX Product SIMs 79

Copy the Backed Up Files into the New Product Folder 80

Import the FIX I/O Driver Configuration Information 82

Verify the I/O Driver and Database Migration 83

Import the Recipes Files 84

Import the Security Configuration 84

Reconfigure the Application Features and Passwords for Each User 85

Identical Application Features in FIX32 and iFIX with FIX Desktop 86

FIX32 Application Feature Names That Are Different After the Upgrade 87

FIX32 Application Features No Longer Available After the Upgrade 89

New Application Features Available for iFIX Users 90

Redefine SCADA Failover Settings 91

Enable Environmental Protection 91

Understanding Environment Protection in iFIX 92

Steps to Enable Environment Protection 93

Understanding Environment Protection 94

Setting up for Remote OPC Server Access 97

Setting Up the Windows XP, Vista, or Windows Server 2008 Firewall for Use with Remote OPC Servers 97

Setting Up DCOM for Use with Remote OPC Servers 104

DCOM Settings 105

System-wide COM/DCOM Limits Settings 105

OPC Server-specific DCOM Settings 106

Windows Operating System Considerations 111
Windows and Security 112
Running iFIX as a Service with Other Services 113
Examples: Using GrantUserFixServiceRights 113
Windows and Mapped Network Drives 114
EDA Applications and Windows 114
Other iFIX Installation Considerations 117
Supported Drivers 117
Special Keyboard Buttons 117
Networking 119
Supported Networking Protocol 119
Supported File Servers 119
Handling Time Zones when Using Networked FIX 6.15 and iFIX Nodes 120
Networking with Other iFIX and FIX Nodes 120
Contact GE Intelligent Platforms 121
General Contact Information 121
Technical Support 121
When You Have Questions 122
Assistance 123

About This Guide

Welcome to iFIX®! Thank you for taking the time to install and use iFIX.

Before you begin installing our product, please take some time to review this Getting Started guide. The guide includes information about the following:

- Installing iFIX
- Upgrading from earlier versions of iFIX
- Supported networking components

Reference Documents

For more information on the System Configuration Utility, troubleshooting your set-up, working with the Proficy iFIX WorkSpace, or setting up a process database or SCADA system after you install iFIX, please refer to the following electronic books:

- Setting Up the Environment
- Understanding iFIX
- Building a SCADA System

General Installation Information

This chapter provides general information you need in order to install iFIX including:

- Hardware requirements, including required computer hardware, recommended computers, required memory, and required hard disk space.
- Installing the hardware key and replacing defective keys.
- Installing iFIX, or iFIX with FIX Desktop.
- iFIX software requirements, including operating systems, supported regional settings, video drivers, optimizing virtual memory, and running iFIX as a service.
- Optional installation features, including online registration, and installing optional hardware.
- Installing iFIX with other applications including FIX Desktop, Microsoft® Office, and Proficy Change Management.

Set-up Overview

When you are ready to begin setting up your iFIX environment, use the following steps to set up your nodes.

To set up your nodes:

1. Set up each computer you require. Use the section Hardware Requirements as a guide and refer to the user manual that accompanies each computer for detailed setup information.
2. Install and optimize Microsoft Windows on each computer as needed. Also make sure you create a login account with administrator rights so you can install iFIX later. For instructions on optimizing Windows, refer to the Optimizing Virtual Memory section.
3. Set up the network adapters and network software required for each computer. Refer to the Networking iFIX Nodes and Advanced Topics chapters of the Setting Up the Environment manual for more information.
4. Install iFIX and any other hardware you may have purchased. Refer to the Installing the iFIX Software section for instructions on installing iFIX and your USB key. For information on installing other hardware, refer to that product's documentation.
5. Configure iFIX on each computer. Make sure that the user installing iFIX is a member of the Administrators Windows group. Refer to the Configuring iFIX Using the SCU chapter of the Setting Up the Environment manual for more information on configuring iFIX.

Hardware Requirements

The minimum iFIX hardware requirements are:

iFIX without Enhanced Failover or Proficy Historian for SCADA

For Proficy HMI/SCADA - iFIX computers, the recommended minimum hardware requirements are:

- A 2.0 GHz Intel® Core™2 Duo Processor or better computer. For better performance, GE Intelligent Platforms recommends a minimum 3 GHz computer with 4 GB memory or greater. Be aware that the computer must be at least Dual-Core; a single core is not supported (with or without hyper-threading). Hyper-threading is also not supported on multiple core computers.
- SpeedStep® technology is not supported and must not be enabled.
- For time synchronization, the Windows Net Time and W32tm commands are both supported. However, if using the W32tm command, be sure to use the /nowait instruction when resynchronizing the clock. For example: W32tm /resync /nowait. The /nowait parameter instructs the operating system to make a stepping adjustment against the time server.
- The power save settings on your computer must be disabled. Do not use any power setting features that affect CPU clock speed.
- A minimum of 2 GB RAM. For better performance, please consider using more.

  NOTE: *To use more than 4 GB of memory on a 32-bit platform you need to use Microsoft Windows 2003 or 2008 Enterprise Server. Windows Vista and Windows XP do not support Physical Address Extensions, so you can only use up to 4GB of memory on these operating systems.*

- A minimum of 10 GB of free hard drive space for iFIX pictures, databases, alarm files, and other data files. Even after allowing for an extra GB for iFIX, it is strongly recommended that many GBs of additional free space exist on the hard drive to avoid performance issues.
- Be aware that iFIX alarm and historical data files grow dynamically. If you plan to perform extensive alarm or data collection on a node, you may need more disk space on that particular node.
- Other Proficy products, such as Proficy Plant Applications, Proficy Historian, and Proficy Real-Time Information Portal, impose additional requirements. Refer to the Important Product Information (IPI) topic in the product's electronic books for specific system requirements. Click the System Req. tab in that product's IPI for details.
- A DVD drive.
- 100 MBit or faster Full Duplex TCP/IP-compatible network interface adapter for iFIX network communication between SCADA and Client nodes.

  NOTE: *iFIX no longer supports NetBIOS.*

  NOTE: *iFIX does not support IPv6.*

- One free direct-connect USB port. Some touch screens, pointing devices, and I/O drivers require a serial port. Additional ports for I/O hardware should be ordered with the computer.
- SVGA or better color monitor with a 24-bit (16,777,216 colors) graphics card capable of at least 1024x768 resolution. For Windows 7, the graphics cards should be "Windows 7 (certified)".
- Two-button mouse or compatible pointing device (such as a touch screen) that is capable of opening a context menu.

iFIX with Enhanced Failover Enabled

For Proficy HMI/SCADA - iFIX computers with SCADA Enhanced Failover features enabled, the recommended minimum hardware requirements are (for both primary and secondary computers):

IMPORTANT: *The minimum requirements below assume that you are running only a SCADA server without additional applications, such as EDA or FIX Desktop applications. If you want to run more applications, you will need to increase your hardware support for better performance.*

- A 3.0 GHz Intel® Core™2 Duo Processor or better computer. For better performance, please consider using higher. Be aware that the computer must be at least Dual-Core; a single core is not supported (with or without hyper-threading). Hyper-threading is also not supported on multiple core computers.
- SpeedStep® technology is not supported and must not be enabled.
- For time synchronization, the Windows Net Time and W32tm commands are both supported. However, if using the W32tm command, be sure to use the /nowait instruction when resynchronizing the clock. For example: W32tm /resync /nowait. The /nowait parameter instructs the operating system to make a stepping adjustment against the time server.
- The power save settings on your computers and dedicated network card (NIC) must be disabled. Do not use any power setting features that affect CPU clock speed.
- A minimum of 4 GB RAM. For better performance, please consider using more.

  NOTE: *To use more than 4 GB of memory on a 32-bit platform you need to use Microsoft Windows 2003 or 2008 Enterprise Server. Windows Vista and Windows XP do not support Physical Address Extensions, so you can only use up to 4GB of memory on these operating systems.*

- One additional Gigabit-Ethernet card (or better) dedicated for SCADA-to-SCADA traffic (for a total of at least 2 network cards). The dedicated SCADA-to-SCADA network card should be excluded from the iFIX-to-iFIX network (not enabled for LAN redundancy), and used exclusively for Enhanced Failover synchronization. Both network cards must be of the same speed, and appear on the compatibility list for each card. It is strongly recommended that the cards be of the same make and model number, and use the same drivers.

  IMPORTANT: *You must use a direct connection via a Cat6 crossover cable, without going through any switches, hubs, or routers. Due to limited bandwidth and latency, wireless networking technology should not be considered.*

- The wake-up upon receiving a socket or/and request feature must be disabled on the dedicated SCADA-to-SCADA network card.
- Jumbo Frames technology must be used on the dedicated network for Enhanced Failover. Jumbo Frames technology allows for an Ethernet frame of 9000 MTU for the payload, compared to a frame of 1500 bytes without the Jumbo Frames.
- A minimum of 10 GB of free hard drive space. Even after allowing for an extra GB for iFIX, it is strongly recommended that many GBs of additional free space exist on the hard drive to avoid performance issues.

  Be aware that iFIX alarm and historical data files grow dynamically. If you plan to perform extensive alarm or data collection on a node, you may need more disk space on that particular node.
- Other Proficy products, such as Proficy Plant Applications, Proficy Historian, and Proficy Real-Time Information Portal, impose additional requirements. Refer to the Important Product Information (IPI) topic in the product's electronic books for specific system requirements. Click the System Req. tab in that product's IPI for details.
- Primary and Secondary SCADA computers located physically next to each other, in the same location/room.
- A DVD drive.
- 100 MBit or faster Full Duplex TCP/IP-compatible network interface adapter for iFIX network communication between SCADA and Client nodes.

  NOTE: *iFIX does not support IPv6.*
- One free direct-connect USB port. Some touch screens, pointing devices, and I/O drivers require a serial port. Additional ports for I/O hardware should be ordered with the computer.
- SVGA or better color monitor with a 24-bit (16,777,216 colors) graphics card capable of at least 1024x768 resolution. For Windows 7, the graphics cards should be "Windows 7 (certified)".
- Two-button mouse or compatible pointing device (such as a touch screen) that is capable of opening a context menu.

iFIX with Proficy Historian for SCADA

For Proficy HMI/SCADA - iFIX computers with Proficy Historian for SCADA, the recommended minimum hardware requirements are:

- A 3.0 GHz Intel® Core™2 Duo Processor or better computer. For better performance, please consider using higher. Be aware that the computer must be at least Dual-Core; a single core is not supported (with or without hyper-threading). Hyper-threading is also not supported on multiple core computers.
- SpeedStep® technology is not supported and must not be enabled.
- For time synchronization, the Windows Net Time and W32tm commands are both supported. However, if using the W32tm command, be sure to use the /nowait instruction when resynchronizing

the clock. For example: W32tm /resync /nowait. The /nowait parameter instructs the operating system to make a stepping adjustment against the time server.

- The power save settings on your computer must be disabled. Do not use any power setting features that affect CPU clock speed.
- A minimum of 4 GB RAM. For better performance, please consider using more.

  NOTE: *To use more than 4 GB of memory on a 32-bit platform you need to use Microsoft Windows 2003 or 2008 Enterprise Server. Windows Vista and Windows XP do not support Physical Address Extensions, so you can only use up to 4GB of memory on these operating systems.*

- A minimum of 40 GB for free hard drive space. It is strongly recommended that many GBs of additional free space exist on the hard drive for growing Archiver files and to avoid performance issues.

  Be aware that archiver data files grow dynamically. If you plan to perform extensive iFIX data collection on a node, you may need more disk space on that particular node.

- Other Proficy products, such as Proficy Plant Applications, and Proficy Real-Time Information Portal, impose additional requirements. Refer to the Important Product Information (IPI) topic in the product's electronic books for specific system requirements. Click the System Req. tab in that product's IPI for details.
- A DVD drive.
- 100 MBit or faster Full Duplex TCP/IP-compatible network interface adapter for iFIX network communication between SCADA and Client nodes.

  NOTE: *iFIX does not support IPv6.*

- One free direct-connect USB port. Some touch screens, pointing devices, and I/O drivers require a serial port. Additional ports for I/O hardware should be ordered with the computer.
- SVGA or better color monitor with a 24-bit (16,777,216 colors) graphics card capable of at least 1024x768 resolution. For Windows 7,the graphics cards should be "Windows 7 (certified)".
- Two-button mouse or compatible pointing device (such as a touch screen) that is capable of opening a context menu.

iFIX with iFIX WebSpace (without a Relay Server)

IMPORTANT:

- While running the iFIX WebSpace Server and the SCADA Server on the same machine is supported, it is strongly recommended that production SCADA Servers reside on a different machine than the iFIX WebSpace Server.
- SpeedStep® technology is not supported and must not be enabled on either server.

iFIX WebSpace Server - Less than 5 Clients

The following minimum hardware recommendations apply when using the iFIX WebSpace Server on a low-end machine supporting less than five iFIX WebSpace sessions, and iFIX projects with pictures that have a small amount of animation, shapes, and bitmaps:

- A 3.0 GHz Intel® Core™2 Duo Processor or better computer. For better performance, please consider using higher. Be aware that the computer must be at least Dual-Core; a single core is not supported (with or without hyper-threading). Hyper-threading is also not supported on multiple core computers.
- SpeedStep® technology is not supported and must not be enabled.
- For time synchronization, the Windows Net Time and W32tm commands are both supported. However, if using the W32tm command, be sure to use the /nowait instruction when resynchronizing the clock. For example: W32tm /resync /nowait. The /nowait parameter instructs the operating system to make a stepping adjustment against the time server.
- The power save settings on your computer must be disabled. Do not use any power setting features that affect CPU clock speed.
- A minimum of 8 GB RAM. For better performance, please consider using more.

  NOTE: *To use more than 4 GB of memory on a 32-bit platform you need to use Microsoft Windows 2003 or 2008 Enterprise Server. Windows Vista and Windows XP do not support Physical Address Extensions, so you can only use up to 4GB of memory on these operating systems.*

- A minimum of 10 GB of free hard drive space. It is strongly recommended that many GBs of additional free space exist on the hard drive to avoid performance issues.

  Be aware that iFIX alarm and historical data files grow dynamically. If you plan to perform extensive alarm or data collection on a node, you may need more disk space on that particular node.

- Other Proficy products, such as Proficy Plant Applications, Proficy Historian, and Proficy Real-Time Information Portal, impose additional requirements. Refer to the Important Product Information (IPI) topic in the product's electronic books for specific system requirements. Click the System Req. tab in that product's IPI for details.
- A DVD drive.
- 100 MBit or faster Full Duplex TCP/IP-compatible network interface adapter for iFIX network communication between SCADA and Client nodes. Since the server bandwidth scales linearly with the number of clients connected, the speed of the network card on the server should be able to accommodate these connections.

  NOTE: *iFIX does not support IPv6.*

- One free direct-connect USB port. Some touch screens, pointing devices, and I/O drivers require a serial port. Additional ports for I/O hardware should be ordered with the computer.
- SVGA or better color monitor with a 24-bit (16,777,216 colors) graphics card capable of at least 1024x768 resolution.

- Two-button mouse or compatible pointing device (such as a touch screen) that is capable of opening a context menu.

iFIX WebSpace Server - Up to 25 Clients

The following minimum hardware recommendations apply when using the iFIX WebSpace Server on a high-end machine that can support up to 25 clients:

- Intel® Xeon® Quad-Core Processor, running at 3.2 GHz or better. For better performance, please consider using higher. Be aware that the computer must be at least Quad-Core; a single core is not supported (with or without hyper-threading). Hyper-threading is also not supported on multiple core computers.
- SpeedStep® technology is not supported and must not be enabled.
- For time synchronization, the Windows Net Time and W32tm commands are both supported. However, if using the W32tm command, be sure to use the /nowait instruction when resynchronizing the clock. For example: W32tm /resync /nowait. The /nowait parameter instructs the operating system to make a stepping adjustment against the time server.
- The power save settings on your computer must be disabled. Do not use any power setting features that affect CPU clock speed.
- A minimum of 16 GB RAM. For better performance, please consider using more.

  NOTE: *To use more than 4 GB of memory on a 32-bit platform you need to use Microsoft Windows 2003 or 2008 Enterprise Server. Windows Vista and Windows XP do not support Physical Address Extensions, so you can only use up to 4GB of memory on these operating systems.*

- A minimum of 10 GB of free hard drive space. Even after allowing for an extra GB for iFIX, it is strongly recommended that many GBs of additional free space exist on the hard drive to avoid performance issues.

  Be aware that iFIX alarm and historical data files grow dynamically. If you plan to perform extensive alarm or data collection on a node, you may need more disk space on that particular node.

- Other Proficy products, such as Proficy Plant Applications, Proficy Historian, and Proficy Real-Time Information Portal, impose additional requirements. Refer to the Important Product Information (IPI) topic in the product's electronic books for specific system requirements. Click the System Req. tab in that product's IPI for details.
- A DVD drive.
- 100 MBit or faster Full Duplex TCP/IP-compatible network interface adapter for iFIX network communication between SCADA and Client nodes. Since the server bandwidth scales linearly with the number of clients connected, the speed of the network card on the server should be able to accommodate these connections.

  NOTE: *iFIX does not support IPv6.*

- One free direct-connect USB port. Some touch screens, pointing devices, and I/O drivers require a serial port. Additional ports for I/O hardware should be ordered with the computer.
- SVGA or better color monitor with a 24-bit (16,777,216 colors) graphics card capable of at least 1024x768 resolution.

  NOTE: *For better performance, considering using an external graphics card with a PCI-E interface adapter with 512MB RAM or better.*

- Two-button mouse or compatible pointing device (such as a touch screen) that is capable of opening a context menu.

iFIX WebSpace Browser Session

The speed of the client computer viewing the iFIX WebSpace session through a browser can also impact performance. Faster client machines typically load iFIX pictures much quicker, and have improved performance while those pictures are open. For instance, in testing, a slow client with 512 MB RAM and 1.5 GHz processor had picture load times approximately 1.5 times longer than a faster client with 1 GB RAM and 3.0 GHz processor.

Network speeds and connection types also impact performance for an iFIX WebSpace session. A 100 MBit or faster network adapter, which is recommended, allows the iFIX WebSpace session to utilize optimum speed for its performance. Companies using VPN connections for iFIX WebSpace sessions may experience a decrease in performance.

For iFIX Webspace sessions, the following browsers are supported: Mozilla Firefox and Microsoft Internet Explorer (32-bit browsers only; 64-bit browsers are not supported). For Mozilla Firefox, the following versions were tested: 4.0, 5.0, 6.0, 7.0, and 8.0.. For Internet Explorer, the following versions were tested: 7.0, 8.0, and 9.0.

NOTE: *The Mozilla Firefox plug-in will not run on Microsoft Internet Information Server (IIS) 6.0 or greater unless you modify IIS to serve a document with a registered MIME type extension of xpi on that IIS server (MIME type is xpi). IIS 6.0 or greater does not serve unknown MIME types. Please see KB article 326965 on the Microsoft Knowledgebase for more information: http://support.microsoft.com/default.aspx?scid=kb;en-us;326965.*

NOTE: *Running iFIX WebSpace client sessions (browser or desktop client) on the same computer as the iFIX Web Space Server is not supported.*

iFIX and iFIX WebSpace in a Relay Server Configuration

IMPORTANT: *The production SCADA Servers should reside on a different machine than the Relay Server or Dependent Application Server. Also, SpeedStep® technology is not supported and must not be enabled on any of these servers.*

Relay Server

The following minimum hardware recommendations apply when using the iFIX WebSpace Relay Server on a high-end machine that can support up to 25 clients:

IMPORTANT: *Performance may vary based on the amount of pictures being presented on each session.*

- Intel® Xeon® Quad-Core Processor, running at 3.2 Ghz or better. For better performance, please consider using higher. Be aware that the computer must be at least Quad-Core; a single core is not supported (with or without hyper-threading). Hyper-threading is also not supported on multiple core computers.
- SpeedStep® technology is not supported and must not be enabled.
- For time synchronization, the Windows Net Time and W32tm commands are both supported. However, if using the W32tm command, be sure to use the /nowait instruction when resynchronizing the clock. For example: W32tm /resync /nowait. The /nowait parameter instructs the operating system to make a stepping adjustment against the time server.
- The power save settings on your computer must be disabled. Do not use any power setting features that affect CPU clock speed.
- A minimum of 16 GB RAM. For better performance, please consider using more.

  NOTE: *To use more than 4 GB of memory on a 32-bit platform you need to use Microsoft Windows 2003 or 2008 Enterprise Server. Windows Vista and Windows XP do not support Physical Address Extensions, so you can only use up to 4GB of memory on these operating systems.*

- A minimum of 10 GB of free hard drive space. Even after allowing for an extra GB for iFIX, it is strongly recommended that many GBs of additional free space exist on the hard drive to avoid performance issues.

  Be aware that iFIX alarm and historical data files grow dynamically. If you plan to perform extensive alarm or data collection on a node, you may need more disk space on that particular node.
- A DVD drive.
- 1 GB Full Duplex TCP/IP-compatible network interface adapter for iFIX network communication. Since the server bandwidth scales linearly with the number of clients connected, the speed of the network card on the server should be able to accommodate these connections.

  NOTE: *iFIX WebSpace does not support IPv6.*

- One free direct-connect USB port. Some touch screens, pointing devices, and I/O drivers require a serial port. Additional ports for I/O hardware should be ordered with the computer.
- SVGA or better color monitor with a 24-bit (16,777,216 colors) graphics card capable of at least 1024x768 resolution.
- Two-button mouse or compatible pointing device (such as a touch screen) that is capable of opening a context menu.

Dependent Server - Less than 5 Clients

The following minimum hardware recommendations apply when using the iFIX WebSpace Dependent Server on a low-end machine supporting less than five iFIX WebSpace sessions, and iFIX projects with pictures that have a small amount of animation, shapes, and bitmaps:

IMPORTANT: *Performance may vary based on the amount of pictures being presented on each session.*

- A 3.0 GHz Intel® Core™2 Duo Processor or better computer. For better performance, please consider using higher. Be aware that the computer must be at least Dual-Core; a single core is not supported (with or without hyper-threading). Hyper-threading is also not supported on multiple core computers.
- SpeedStep® technology is not supported and must not be enabled.
- For time synchronization, the Windows Net Time and W32tm commands are both supported. However, if using the W32tm command, be sure to use the /nowait instruction when resynchronizing the clock. For example: W32tm /resync /nowait. The /nowait parameter instructs the operating system to make a stepping adjustment against the time server.
- The power save settings on your computer must be disabled. Do not use any power setting features that affect CPU clock speed.
- A minimum of 8 GB RAM. For better performance, please consider using more.

  NOTE: *To use more than 4 GB of memory on a 32-bit platform you need to use Microsoft Windows 2003 or 2008 Enterprise Server. Windows Vista and Windows XP do not support Physical Address Extensions, so you can only use up to 4GB of memory on these operating systems.*

- A minimum of 10 GB of free hard drive space. It is strongly recommended that many GBs of additional free space exist on the hard drive to avoid performance issues.

  Be aware that iFIX alarm and historical data files grow dynamically. If you plan to perform extensive alarm or data collection on a node, you may need more disk space on that particular node.

- Other Proficy products, such as Proficy Plant Applications, Proficy Historian, and Proficy Real-Time Information Portal, impose additional requirements. Refer to the Important Product Information (IPI) topic in the product's electronic books for specific system requirements. Click the System Req. tab in that product's IPI for details.
- A DVD drive.
- 100 MBit or faster Full Duplex TCP/IP-compatible network interface adapter for iFIX network communication between SCADA and Client nodes. Since the server bandwidth scales linearly with the number of clients connected, the speed of the network card on the server should be able to accommodate these connections.

  NOTE: *iFIX does not support IPv6.*

- One free direct-connect USB port. Some touch screens, pointing devices, and I/O drivers require a serial port. Additional ports for I/O hardware should be ordered with the computer.

- SVGA or better color monitor with a 24-bit (16,777,216 colors) graphics card capable of at least 1024x768 resolution.
- Two-button mouse or compatible pointing device (such as a touch screen) that is capable of opening a context menu.

Dependent Server - Up to 25 Clients

The following minimum hardware recommendations apply when using the iFIX WebSpace Dependent Server on a high-end machine that can support up to 25 clients:

- Intel® Core™2 Quad Processor, running at 3.2 GHz or better. For better performance, please consider using higher. Be aware that the computer must be at least Dual-Core; a single core is not supported (with or without hyper-threading). Hyper-threading is also not supported on multiple core computers.
- SpeedStep® technology is not supported and must not be enabled.
- For time synchronization, the Windows Net Time and W32tm commands are both supported. However, if using the W32tm command, be sure to use the /nowait instruction when resynchronizing the clock. For example: W32tm /resync /nowait. The /nowait parameter instructs the operating system to make a stepping adjustment against the time server.
- The power save settings on your computer must be disabled. Do not use any power setting features that affect CPU clock speed.
- A minimum of 16 GB RAM. For better performance, please consider using more.

  NOTE: *To use more than 4 GB of memory on a 32-bit platform you need to use Microsoft Windows 2003 or 2008 Enterprise Server. Windows Vista and Windows XP do not support Physical Address Extensions, so you can only use up to 4GB of memory on these operating systems.*

- A minimum of 10 GB of free hard drive space. Even after allowing for an extra GB for iFIX, it is strongly recommended that many GBs of additional free space exist on the hard drive to avoid performance issues.

  Be aware that iFIX alarm and historical data files grow dynamically. If you plan to perform extensive alarm or data collection on a node, you may need more disk space on that particular node.

- Other Proficy products, such as Proficy Plant Applications, Proficy Historian, and Proficy Real-Time Information Portal, impose additional requirements. Refer to the Important Product Information (IPI) topic in the product's electronic books for specific system requirements. Click the System Req. tab in that product's IPI for details.
- A DVD drive.
- 100 MBit or faster Full Duplex TCP/IP-compatible network interface adapter for iFIX network communication between SCADA and Client nodes. Since the server bandwidth scales linearly with the number of clients connected, the speed of the network card on the server should be able to accommodate these connections.

NOTE: *iFIX does not support IPv6.*

- One free direct-connect USB port. Some touch screens, pointing devices, and I/O drivers require a serial port. Additional ports for I/O hardware should be ordered with the computer.
- SVGA or better color monitor with a 24-bit (16,777,216 colors) graphics card capable of at least 1024x768 resolution.

  NOTE: *For better performance, considering using an external graphics card with a PCI-E interface adapter with 512MB RAM or better.*

- Two-button mouse or compatible pointing device (such as a touch screen) that is capable of opening a context menu.

Recommended Computers

iFIX has been tested by GE Intelligent Platforms on the following computers:

- Acer Aspire IQ 4835M
- Dell Optiplex GX620
- Dell Optiplex 755
- Dell Optiplex 760
- Dell Optiplex 780
- Dell PowerEdge 1900
- Dell Precision T7500
- IBM ThinkCentre E50 8708-D44
- Lenovo ThinkCentre A55 MT-M 8985-AJ9
- Lenovo ThinkCentre A55 MT-M 8985-AN2
- Lenovo ThinkCentre A55 MT-M 8985-B63

iFIX has also been tested on the following devices with Windows XP Embedded, SP3:

- AXIOMTEK Touch Panel, GOT-5100T
- ads-tec Thin Client OCT-5012

While GE Intelligent Platforms cannot guarantee the integrity of any computer, our testing has shown a higher potential for problems with the economy lines of computers on the market. Because of these problems, it is not recommended that you use value or economy type computers with iFIX. Instead, it is recommended that you invest in the higher end (premier) line of computers when purchasing computer hardware.

Memory Requirements

iClients and SCADA nodes (without Enhanced Failover or Proficy Historian for SCADA) require at least 2 GB RAM. For better performance, please consider using more.

NOTE: *As more applications run simultaneously on a SCADA server, performance decreases. Whenever possible, run additional applications on different computers.*

If the size of your process database is over 1MB, add 1 megabyte of memory for each megabyte of database size. For example, if your database is 2MB in size, your SCADA server requires 130MB minimum (128+2=130).

If your picture cache size increases, your memory requirements should increase:

- 2 to 3 times the file size for each picture that does not include bitmaps and controls.
- 3 to 4 times the file size for each picture that includes bitmaps and controls.

For example, a 2 megabyte file that does not include bitmaps and controls requires a 4 to 6 megabyte increase in memory. A 2 megabyte file that includes bitmaps and controls requires an increase in the memory of 6 to 8 megabytes.

Disk Space Requirements

The Proficy iFIX WorkSpace checks to make sure you have at least 10 MB of disk space when you save a picture or a schedule. If there is insufficient disk space, the WorkSpace may react unpredictably and you may lose your work.

To help minimize this problem, the WorkSpace warns you if you have less than 10 MB of disk space available. Although you can continue loading the software, we recommend that you stop iFIX, free some disk space, then restart. Otherwise, the WorkSpace may become unstable.

The WorkSpace examines the iFIX Picture path and the Windows TEMP path when it starts. If you change either path so that they reference different drives, for example, D:\Program Files\Proficy\Proficy iFIX and C:\Temp, the WorkSpace requires 10 MB on each drive.

You may find that 10MB is not enough space to protect against instability during file save operations. You can increase this threshold by changing the FreeDiskSpace parameter in the FixUserPreferences.ini file. This parameter sets the minimum amount of space that the WorkSpace requires in bytes. By default, the parameter is set as follows:

```
[AppRunPreferences]

FreeDiskSpace=10000000
```

To change FreeDiskSpace parameter:

1. Shut down the WorkSpace.
2. Locate the FixUserPreferences.ini file in the Local path.
3. Open the file with a text editor, and change the FreeDiskSpace parameter to the amount you want.
4. Save the .INI file and restart the WorkSpace.

The USB Key

The USB key that is currently offered supports USB port configurations. The USB key you use to run iFIX:

- Controls and enables software options available to your installation.
- Uses a utility to electronically reprogram options you choose to upgrade or change.

iFIX runs in demo mode for two hours if the key is not installed or found. USB keys from version 2.5 and older will not work with the current version of iFIX. The iFIX 2.6 SuperPro keys also do not work with the latest version of iFIX. iFIX only supports HASP M4 keys.

NOTES:

- *In some cases, an electronic file update is not available for reprogramming your key.*
- *If you want to upgrade an earlier version of iFIX that came with a Rainbow SuperPro or C++ key, you will need to exchange your key for new one. Typically, this includes SuperPro keys from iFIX 2.6, and any 2.5 or earlier release.*
- *Additionally, if you want to upgrade iFIX to run with other Proficy products, such as Proficy Change Management or Proficy Plant Applications, you will also be required to exchange your USB key for a new M4 key.*
- *You can exchange the older key by contacting your iFIX sales representative.*

Be sure to file your USB key packing slip in a safe location. The codes on this slip are necessary for GE Intelligent Platforms to quickly duplicate the key in case it is damaged or misplaced. You can verify that your serial number matches the serial number on the USB key packing slip by using the Proficy License Viewer utility to detect and display your USB key settings. For more information, see the License and Key Checking section.

Installing the USB Key

A USB key is included with your iFIX software. You must install your USB key in order to access all the

components of the iFIX software you purchased.

Typically, you install your USB key as you install the iFIX product. Refer to the Installing the iFIX Software section for more details. If you are upgrading from a previous version, you usually run the electronic licensing update file for your key before installing the newer version of iFIX.

If you insert the key after you install iFIX, it should be detected automatically when iFIX starts. It is recommended that you shutdown your computer before plugging in a new USB key.

IMPORTANT: *Do not remove the USB key from your node while iFIX is running. If you do, iFIX features will shut down and you will need to restart iFIX. You may also damage the USB key if you remove it while iFIX is running.*

GE Intelligent Platforms only supports the installation of the USB key. At this time, GE Intelligent Platforms does not support USB keys connected through an external USB hub.

On new installs, GE Intelligent Platforms recommends that you insert your USB key *after* you run the iFIX install.

License and Key Checking

To use iFIX and other Proficy products, you must purchase the product with the desired options from GE Intelligent Platforms. Depending on the options you buy, you may need to replace your current key or run an update program on your existing key to enable the options. If you are upgrading from an earlier version of iFIX, you will also need to update or replace your key.

If you want to determine the options that are enabled on the computer you are currently working on, use the Proficy License Viewer to view the options enabled.

NOTE: *If you try to run the Proficy License Viewer when an older key is installed, an error message appears.*

TIP: *The Proficy License Viewer program can be used to provide technical support personnel with information about your iFIX USB key.*

▸ To use the Proficy License Viewer to determine the enabled options:

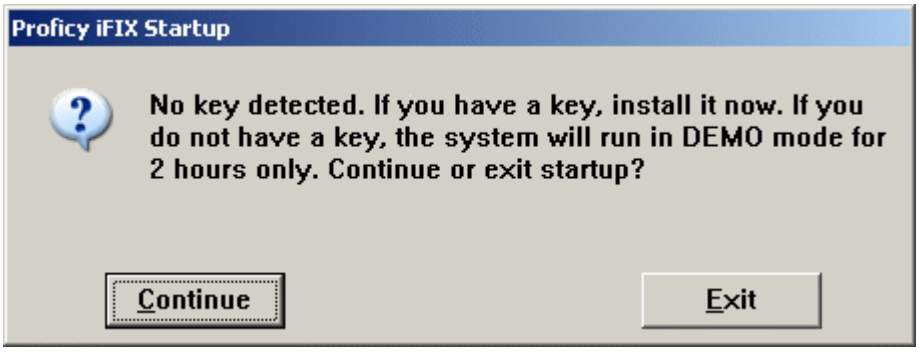
1. From the Start menu, point to Programs, Proficy Common, and then License Viewer. The License Viewer appears.
2. In the Proficy Products list, select the iFIX product. The License and Key Diagnostics area should now display the iFIX options.

   For information on upgrading your key to add other options, contact GE Intelligent Platforms. GE Intelligent Platforms will provide the steps for upgrading your Proficy license file when you purchase

new options or products.

Troubleshooting USB Key Installation

If the USB key does not install properly, you may find that even though you have followed the installation directions for your hardware key, you see the following message at iFIX startup:


Proficy iFIX Startup
No key detected. If you have a key, install it now. If you do not have a key, the system will run in DEMO mode for 2 hours only. Continue or exit startup?
Continue
Exit

Message when No Key is Detected

First, check to see that your USB key is firmly attached. Next, uninstall and reinstall the driver for the USB key. If this driver has been incorrectly uninstalled, it may behave unpredictably.

Troubleshooting the Aladdin HASP USB Key

If the Aladdin HASP USB key does not appear to be working, you can reinstall the licensing to recover from the improper install. When the Aladdin HASP key is not communicating correctly, you will notice that the indicator light at the end of the key is off.

▸ To reinstall Proficy Licensing:

1. Reinstall the licensing by clicking the ProficyClientInstallerlite.exe file in the License folder on the iFIX product installation CD.
2. Click Finish when the licensing install completes.

Replacing Defective USB Keys

A defective USB key causes your Proficy product to run in Demo mode. In iFIX, that means you will only be able run in iFIX in DEMO mode.

Be sure to check that the key is firmly attached to your USB port before assuming it is defective. Additionally,

if the indicator light at the end of the key is off, then the key is not communicating correctly.

You can also use the License Viewer to determine if the USB key is defective. If your USB key is defective, the License Viewer does not display the proper enabled options. Or, an error message stating that a USB key is required to view the enabled options may appear. For more information on using the License Viewer, refer to the License and Key Checking section.

GE Intelligent Platforms replaces defective keys as quickly as possible. To obtain a replacement USB key:

- Call your local GE Intelligent Platforms technical support representative. The support representative will instruct you to FAX a completed copy of a Merchandise Return Authorization form. On receipt of the form, GE Intelligent Platforms can program a new USB key and send it to you overnight.
- When you receive the USB key, you must return the old one along with a copy of the form sent with the new USB key. GE Intelligent Platforms reserves the right to invoice you for defective USB keys that are not returned.

Common Questions About USB Keys

This section describes some frequently asked questions about iFIX USB keys.

What Does the Light At the End of the USB Key Indicate?

The light indicates that the key and the software are communicating. If this light is off, it indicates a problem with the key.

If I Move the USB Key To Another Port Is It Automatically Detected?

Yes. The USB key is automatically detected when moved to another USB port. There are no additional screens requesting software to be installed for the Aladdin HASP USB key.

Software Requirements

The minimum iFIX software requirements are:

- One of the following operating systems:
    - Microsoft® Windows® XP Professional, Service Pack 3. Since Windows XP has continuous updates, you should run the Windows update feature to get the latest software.
    - Microsoft® Windows® Server 2003, Service Pack 2, Standard or Enterprise Edition. Since Windows Server 2003 has continuous updates, you should run the Windows update feature to get the latest software.

- Microsoft® Windows® Vista™, Service Pack 2, Business, Enterprise, or Ultimate Edition. Since Windows Vista has continuous updates, you should run the Windows update feature to get the latest software.
- Microsoft® Windows® Server 2008 (32-bit), Service Pack 2, Standard or Enterprise Edition. Since Windows Server 2008 has continuous updates, you should run the Windows update feature to get the latest software.

  NOTE: *Be aware that the maximum, supported RAM on the Standard Edition for Windows Server 2008 (32-bit) and Windows Server 2003 is 4GB, and this may limit the performance. For better performance, it is recommended that you use a 64-bit operating system, or an operating system that supports Physical Address Extension (PAE). PAE is available on the Enterprise version of Windows Server 2003 and the Windows Server 2008 (32-bit).*

- Microsoft® Windows® Server 2008 R2 (64-bit), Service Pack 1, Standard or Enterprise Edition. Since Windows Server 2008 has continuous updates, you should run the Windows update feature to get the latest software.
- Microsoft® Windows® 7 (32-bit or 64-bit), Service Pack 1, Professional, Enterprise, or Ultimate Edition. Since Windows 7 has continuous updates, you should run the Windows update feature to get the latest software.

  NOTE: *The iFIX WebSpace Server, however, only supports 64-bit on Microsoft® Windows® 7.*

- Microsoft® Windows® XP Tablet Edition, iClient Only.
- Microsoft® Windows® XP Embedded, Service Pack 3.

  NOTES:

  - *The iFIX WebSpace Server and Proficy Historian for SCADA are not supported on the Windows XP Embedded operating system.*
  - *Only English Windows XP Embedded, with English regional settings, is supported with English iFIX; other language operating systems or regional settings for Windows XP Embedded are not supported.*
  - *The .NET Component is not supported on the Windows XP Embedded operating system.*

- Network interface software for TCP/IP network communication and certain I/O drivers.
- If you are using third-party software along with iFIX, make sure that the third party software is also supported for the operating system you are running iFIX on. For instance, if you are running iFIX on Microsoft Windows Vista, your third party software must also be supported on Microsoft Windows Vista.
- An I/O driver for SCADA servers. GE Intelligent Platforms supplies I/O drivers for many

programmable controllers or you may purchase a driver separately.

IMPORTANT: *Be certain that the I/O driver you purchase is compatible with your hardware and operating system. For example, if the driver is not supported on a 64-bit system, then you cannot use this driver with iFIX on 64-bit. Currently, iFIX supports the following drivers on 64-bit operating systems: the OPC, EGD, IGS, and MBE drivers. For more information and for future updates to this list, check our support web site at: http://support.ge-ip.com.*

- Microsoft® Windows® Internet Explorer 7, 8, or 9 (32-bit only). For iFIX Webspace sessions, in addition to Microsoft Internet Explorer 7, 8, and 9 (32-bit only), Mozilla Firefox is also supported. For Mozilla Firefox, the following versions were tested: 4.0, 5.0, 6.0, 7.0, and 8.0.
- If using the Historian Excel Add-In, Microsoft Office XP, Office 2003, Office 2007 SP1, or Office 2010 is required.
- If using VisiconX and Proficy Historian, you must install the Historian OLE DB driver.
- One of the following relational database applications, if relational database software is used with iFIX:
    - Microsoft® SQL Server 2005 (SP2 and higher).
    - Microsoft® SQL Server 2008.
    - Microsoft® SQL Server 2008 R2.
    - Oracle® 10g.
    - Oracle® 11g R2.
    - Microsoft® Access 2000 (or higher). Microsoft Access is supported for local installs only.

Third-Party Software Installed During the iFIX Install

Please note that Microsoft® VBA 6.5 software is automatically installed with iFIX. If the versions of VBA on the iFIX DVD are newer than the versions on your computer, then the iFIX install updates the version on your computer.

Supported Regional Settings

iFIX supports the following regional settings available in the Windows Control Panel:

- Decimal symbol - one character
- Digit grouping symbol
- List separator - one character
- Time style

- Time separator
- Short date style
- Date separator

NOTE: *The decimal symbol and the digit grouping symbol cannot be the same character. Also, the time separator and the date separator cannot be the same character.*

Formatting the Time and Date

Avoid changing the time style or short date style in regional settings to values that are outside of the standard styles provided. Changing these values to non-standard styles may result in improperly formatting times and dates in some parts of iFIX.

iFIX supports the following short date formats, some of which may not be available in certain language versions of Windows:

- dd/mm/yy, or dd/mm/yyyy
- dd/yy/mm, or dd/yyyy/mm
- mm/dd/yy, or mm/dd/yyyy
- mm/yy/dd, or mm/yyyy/dd
- yy/dd/mm, or yyyy/dd/mm
- yy/mm/dd, or yyyy/mm/dd

Formatting the Regional Language Setting

Avoid changing the language setting once a timer has been used in a schedule. If changed, the date always reverts to 30/12/99, regardless of what you set the start time to be.

Setting the System Default Locale

The selected locale must be set as the system default.

Language Support

The iFIX English product with English regional settings is supported on English, non-English single-byte, double-byte, and Cyrillic Windows operating systems. However, be aware that double-byte characters are not supported on single-byte operating systems (OSs). For example, you cannot display Chinese or Japanese characters on an English OS with an English iFIX product installed. For a detailed list of the iFIX supported

operating systems, refer to the Software Requirements section in this chapter.

The iFIX product is also available in other languages. The following table outlines the currently supported languages and operating systems. For more information on the available iFIX versions for each language, contact your regional Sales Representative.

IMPORTANT: *English iFIX installed on Windows XP Embedded is only supported on the English XP Embedded operating system, with English regional settings. No other languages are currently supported for Windows XP Embedded.*

Product Language	**Supported Operating System (OS)**
English iFIX	English OS, Chinese OS, Japanese OS, Polish OS, Russian OS, French OS, and German OS – all only with English regional settings
Chinese iFIX	Chinese OS, with local regional settings
Japanese iFIX	Japanese OS, with local regional settings
Polish iFIX	Polish OS, with local regional settings
Russian iFIX	Russian OS, with local regional settings
French iFIX	French OS, with local regional settings
German iFIX	German OS, with local regional settings

Unsupported Items

- GE Intelligent Platforms does NOT support running the localized version of the product on an English operating system.
- Multilingual User Interface versions of the Windows Operating Systems are not supported by the iFIX product.
- iFIX client/server configurations with different OS languages are not supported. For instance, connecting an English SCADA Server (on an English OS) with a German View node or iClient (on a German OS) is not supported.

- Double-byte characters are not supported on single-byte operating systems.

Video Drivers

After much testing, GE Intelligent Platforms has found that some video drivers have unique problems that are apparent only when using these drivers. Additionally, GE Intelligent Platforms has found that many problems with video drivers occur in both iFIX applications and common applications, such as Excel and Word.

If you are experiencing problems with your video driver, try using it in a different mode to find out if the problem is unique to a specific configuration.

Using Third-party Video Drivers

If you need to use a third-party driver, please use the following guidelines to resolve any problems you may experience:

- Contact the manufacturer to ensure you have the latest version of the video driver. GE Intelligent Platforms has found that the latest version of third-party video drivers can fix some problems.
- If the latest version of the video driver does not fix the problem, notify the video driver manufacturer to see if they are aware of the problem.
- If all else fails to resolve the problem, contact Technical Support.

Optimizing Virtual Memory

Through the use of paging files, Windows allocates space on your hard drive for use as if it were actually memory. This space is known as virtual memory. The following steps describe how to optimize virtual memory in Windows to achieve maximum performance from iFIX.

▸ To optimize the virtual memory paging file for iFIX in Windows:

1. From the Windows Control Panel, open the System Properties dialog box:
    - In Windows Vista, click the System and Maintenance link, the System link, and then, in the Task list, click the Advanced System Settings link.
    - In Windows Server 2008, click System, and then, in the Task list, click the Advanced System Settings link.
    - In all other versions of Windows, in the Control Panel, open the System item.
2. Open the Performance Options:
    - In Windows Vista, in the System Properties dialog box, click the Advanced tab, and in the

Performance Options area, click Settings. The Performance Options dialog box appears.

- In Windows Server 2008, in the System Properties dialog box, click the Advanced tab, and in the Performance Options area, click Settings. The Performance Options dialog box appears. Click the Advanced Tab.
- In Windows XP, in the System Properties dialog box, click the Advanced tab, then in the Performance group box, select Settings. In the Performance Options dialog box, click the Advanced Tab.
- In Windows Server 2003, in the System Properties dialog box, click the Advanced tab, then select Performance Options.

3. In the Virtual Memory group box, select Change.
4. In the Initial Size field, enter a value equal to three times your physical memory, as long as the result of the calculation does not exceed 4 GB or the Maximum Size value.
5. In the Maximum Size field, enter a value equal to three times your physical memory, as long as the result of the calculation does not exceed 4 GB.

   NOTE: *For more information on the 4 GB paging file limit, refer to article 237740 on the Microsoft Knowledgebase: http://support.microsoft.com/kb/237740/en-us.*

6. Select Set.
7. Click OK to save the changes and exit the dialog box.

   NOTE: *If the paging file is set to grow dynamically, your system may experience severe performance problems during runtime. To ensure optimal performance, be sure that the Initial Size and Maximum Size of the paging file are the same so that the paging file does not grow dynamically.*

Running iFIX as a Service

If you are running iFIX as a service, please take note of the following information.

Windows Services

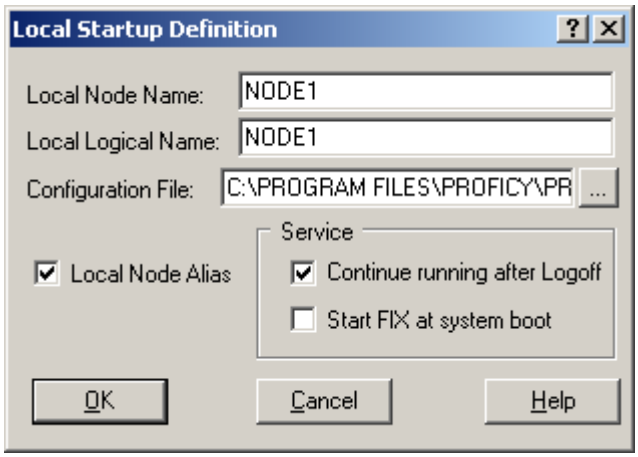
In the Windows Services control panel, do not stop the iFIX service or make changes to the iFIX configuration. This applies to iFIX running on any operating system.

Enabling iFIX to Run as a Service

▸ To enable iFIX to run as a service:

1. Shut down iFIX.

2. Ensure that you are logged in as a user in the Administrators group. If not, log in as an Administrator now.
3. On the Start menu, point to Programs, Proficy HMI SCADA - iFIX, and then System Configuration. The System Configuration Utility (SCU) window appears.
4. On the Configure menu, click Local Startup. The Local Startup Definition dialog box appears.
5. In the Service area, select the *Continue running after logoff* check box, as illustrated in the following figure. This configures iFIX to run as a service when you start iFIX.



NOTE: *The check boxes in the Service area of this dialog box are unavailable while iFIX is running. You need to shut down iFIX, as you did in step 1, to update them.*

6. Additionally, if you want to start iFIX whenever you start Windows, select the *Start iFIX at system boot* check box.

   The Start iFIX at system boot option is available only when the Continue running after Logoff option is selected.

7. Click OK.
8. Exit the SCU.
9. Restart iFIX.

Disabling iFIX as a Service

To disable iFIX from running as a service:

1. Shut down iFIX.

2. Ensure that you are logged in as a user in the Administrators group. If not, log in as an Administrator now.
3. On the Start menu, point to Programs, Proficy HMI SCADA - iFIX, and then System Configuration. The System Configuration Utility (SCU) window appears.
4. On the Configure menu, click Local Startup. The Local Startup Definition dialog box appears.
5. In the Service area of dialog box, clear the *Continue running after logoff* check box.
6. Click OK.
7. On the File menu, click Save to save the SCU file.
8. Exit the SCU.
9. Restart iFIX.

iFIX Paths

Windows does not map network drives until a user logs in. Therefore, if you are running iFIX as a service under Windows, all iFIX paths must be set to a local drive.

Required Application Feature

You must assign the Enable Ctrl+Alt+Del application feature to the user that is logged in when iFIX is running as a service. Otherwise if a user logs out of the operating system while iFIX is running as a service, no one will be able to log back in to the operating system.

Running iFIX with Terminal Services

You must configure the Default Service SCU in the Startup Profile Manager if you want to run iFIX as a service on the Terminal Server. For more information, refer to the Configuring the Default Profile section in the Using Terminal Server electronic book.

Running iFIX with Other Programs

By default, iFIX uses the local System account when running as a service. However, you cannot use the System account with certain applications, such as Proficy Historian for SCADA.

▸ To configure a different user account for iFIX running as a service:

1. From Control Panel, open the Administrative Tools, then Services.
2. In the Services folder, right-click Proficy HMI/SCADA iFIX server and select Properties.
3. In the Log On tab, set the user name and password for This Account to the user account you want to

log in when iFIX is running as a service.

Fast User Switching Not Supported

Fast user switching is not supported with iFIX, even if you are running iFIX as a service.

Running the OPC Client Driver and iFIX as a Service

If you want to run the OPC Client driver as a service, iFIX must also run as a service. Likewise, if you want to run iFIX as a service, the OPC Client driver must run as a service. You cannot run one as a service, without the other also running as a service.

Using with Environment Protection

If you plan to use environment protection when iFIX is running as a service, be sure to add TSFE.EXE to your Windows Startup program group. TSFE.exe is an iFIX application (located in your iFIX install folder) that enables task switching and keyboard filtering when a new user logs into Windows. By adding TFSE.exe to your startup group, you are ensuring that users can log into Windows with environment protection enabled and then operate iFIX in an appropriate, secured environment.

OPC Certification

Based on Microsoft's OLE (Object Linking and Embedding) technology, OPC (OLE for Process Control) provides greater interoperability between control applications, field systems and devices, and front office/backoffice applications. OPC servers, such as DCSs, PLCs, smart field devices, and analyzers provide real-time information and can communicate directly with the Proficy HMI/SCADA - iFIX product.

The iFIX product is an OPC 2.05a DA enabled client, which lets iFIX retrieve data from any OPC 1.x or 2.x (up to version 2.05a) compliant data server. To access local or remote data from a third party OPC Server, use the iFIX OPC Client version 7.4x, which is also in included with iFIX.

iFIX also has an iFIX OPC Server (OPC20iFIX.exe) that serves out data via OPC from the iFIX Database.

Be aware that Proficy iFIX currently includes two OPC servers:

- OPC20iFIX.exe (Intellution.OPCiFIX) – an OPC 2.05a (out of process) Data Server
- iFixOPCAESrv.exe – an OPC 1.10 Alarm and Events (A&E) Server

Both OPC Servers included with iFIX are in compliance with the OPC Foundation's "Self Tested" specifications. GE Intelligent Platforms ran a series of OPC tests to verify compliance for the versions listed above.

You can find more information about OPC on the Support web site at: http://www.ge-ip.com/support.

Installing the iFIX Software

The steps that follow outline how to install the iFIX software from the product install DVD *without* installing the iFIX WebSpace Server. As such, these steps assume that Microsoft Internet Information Server (IIS) or Apache HTTP Server is not installed beforehand (therefore, you cannot install the iFIX WebSpace Server).

On a new system, you can optionally choose to install Proficy Historian for SCADA when you install iFIX. If an existing Proficy Historian install is found when you install iFIX, your install will exit after the iFIX install or upgrade completes, and Proficy Historian for SCADA will not be installed. Should you want to continue and install Proficy Historian for SCADA, refer to the Manually Installing the Proficy Historian Software section for details.

Proficy Historian is the default historian product in iFIX. On upgrades, if Proficy Historian is already installed on the computer, iFIX will default to Proficy Historian as the default historian. When upgrading iFIX on a system where Proficy Historian is not present, Classic Historian will continue to function. For iFIX upgrade steps or for more general information on upgrading iFIX, refer to the Upgrading from an Earlier Version of iFIX and Upgrading from FIX 7.x sections. For more detailed Historian install and upgrade information, refer to the Proficy Historian Getting Started e-book.

To install iFIX software:

1. Log in to Windows with Administrator privileges. Ensure that there are no iFIX, FIX, or Proficy processes running, and close any other programs that are running.

   ***NOTE**: Shut down any Proficy services and licensing prior to installing iFIX.*

2. Insert the iFIX DVD into your DVD drive. The iFIX installation screen appears.

   ***NOTE:** If this screen does not automatically appear, double-click the InstallFrontEnd.exe file on the DVD to display it. A message may appear with a security warning, click Run to proceed.*

3. Click the "Install iFIX" link. A message box appears asking you to confirm the install.
4. Click Yes to proceed. Another message box appears regarding Proficy Historian for SCADA. Read the requirements.
5. Click Yes to proceed. The install program starts and the Welcome screen appears.
6. Click Next to continue. The license agreement screen appears.
7. Click "I accept the terms of the license agreement" if you want to continue, and then click Next.

   ***IMPORTANT:** If a previous version of iFIX is detected, you can choose to upgrade iFIX. For iFIX versions before 4.0, you have the choice to upgrade or install iFIX to a completely new folder, without*

upgrading. If you want to upgrade, it is suggested that you do so using the install at this point in time.

The Setup Type screen appears.

8. Select an option and click Next:

   - **Complete** – Installs all iFIX components, including options such as the Sample System, the Electronic books (e-books), the My-T-Soft virtual (on screen) keyboard, and the Water and OEM Solutions Packs. If the IIS or Apache web server is installed beforehand, the iFIX WebSpace is also installed when you select the Complete option.
   - **Custom** – Installs iFIX and the options that you choose. You are prompted to enter your options after you select an install path.
   - **Typical** – Installs iFIX, the Electronic books (e-books), the Sample System, and the My-T-Soft virtual (on screen) keyboard. FIX Desktop is not installed with this option. Proficy Historian for SCADA and iFIX WebSpace are NOT included in this option.

   IMPORTANT: *On the Complete install option, the iFIX WebSpace Server only installs if you have Microsoft Internet Information Server (IIS) or Apache HTTP Server installed beforehand. If it is not installed beforehand, a message box appears to inform you that the iFIX WebSpace will not be included on the install. While running the iFIX WebSpace Server and the SCADA Server on the same machine is supported, it is strongly recommended that your production SCADA Server resides on a different machine than the iFIX WebSpace Server. You must not run the iFIX SCADA as a service if both servers are on the same machine.*

   The Choose Destination Location screen appears.

9. Leave the default path or click Browse to select a folder.

   NOTES:

   - *If you are upgrading from FIX32, make sure that you choose a location other than the folder that contains your FIX32 software, if it is installed on the same computer. Do not install over a current FIX32 installation.*
   - *If you enter a custom install path, be aware that the path can be no greater than 100 characters long.*
   - *If you want to use 6.x drivers, the iFIX compressed install path must be no greater than 64 characters long. iFIX uses the Microsoft compression algorithm to try to fit longer paths within this boundary. Some paths are not compressible to the 64 character maximum length. Please be aware of this. In addition, make sure that the registry key, HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\FileSystem\NtfsDisable8dot3 NameCreation, is not enabled (is set to 0) when the install folder is created. When set to 1, the compression algorithm is disabled. Refer to Microsoft help for more information on the GetShortPathName() compression algorithm.*

- *After installing a 6x driver, the driver is listed in the SCU in the Drivers Available dialog box (which can be accessed from the I/O Driver Name browse button in the SCADA Configuration dialog box). You need to manually add the driver to the Configured I/O Drivers list in the SCADA Configuration dialog box.*

10. Click Next to continue.

    NOTES:

    - *If you selected a Custom install, instead of Complete, the Select Features screen appears next. Select the features you want to install, and click Next.*

    - *If you chose a Complete or Custom install and do not have a web server installed, a warning message appears indicating that WebSpace component is not available for install. Click OK to close the dialog box.*

    The Ready to Install Program screen appears.

11. Click Install. The progress of the installation displays on screen as the files are copied. After a few minutes, when the install finishes copying the files, the Proficy iFIX Configure Wizard dialog box appears.
12. Enter the Node Name, Node Type, and Connectivity Type, if applicable, and then click OK. For example, if you want to set up a SCADA server without any remote nodes, select SCADA and Stand-alone. If you want a networked SCADA server, select SCADA and Networked. If you want to configure a networked client, select View and Networked.

    TIP: *As a best practice, be sure to enter a new name in the Node Name field. Use a name other than the default name of FIX for your node name. This distinction is important if you have multiple SCADA nodes on the same network, or if you plan to use iFIX WebSpace with iFIX.*

    After you configure your settings and click OK, and if prompted to enter your remote nodes (for a networked node), enter the name of your Remote SCADA node(s), click Add, and then click OK. Otherwise, click Skip and you can configure this at a later time in the SCU (from the Configure > Network menu option).

    A message box requests that you enable Proficy HMI SCADA iFIX through the firewall, if the Windows firewall is enabled.

13. Click Yes to continue (otherwise, you may need to do this later, if the firewall is enabled). The install continues. After a few moments, a message box appears requesting you install KB 974945 for Microsoft® Visual Basic for applications, which is needed for the iFIX WorkSpace.
14. Click Yes to continue. Another message box appears with the Microsoft license agreement for this update.
15. Click Yes to continue. A message box appears after the patch installs.

16. Click OK to continue. The Proficy install continues.

    When the updates are finished installing, a message box appears regarding Proficy Historian for SCADA. If it is not an upgrade, you can continue to step 17. Otherwise, proceed to step 20.

    For upgraders, you have the choice keep your existing Historian, or manually uninstall and reinstall the new Proficy Historian for SCADA. In this instance, refer to the Manually Installing the Proficy Historian Software section after you install iFIX. Be aware that if you want to use Proficy Historian with iFIX, you must at a minimum install the Proficy Historian Client Tools or Proficy Historian for SCADA on the iFIX node. A Proficy Historian Server is typically on a different computer than the iFIX SCADA node.

    NOTES:

    - *If you choose not to install Proficy Historian for SCADA, the following features will not work:*
    - *iFIX database tags from Database Manager will not automatically be added, updated, or deleted to or from Historian.*
    - *You will not be able to update or use the Proficy Historian tab in Database Manager blocks.*
    - *Imported or exported database tags will have default values in the Historian field, but will not be used.*
    - *The FixtoHist.exe and Historical Datalink features will be installed, but will not work without Proficy Historian.*

17. If you want to install Proficy Historian for SCADA, click Yes. The Historian installation setup screen appears.
18. Leave the default install location or select another one, and click Next to continue. The Data Archives and Configuration Folders screen appears.
19. Leave the default location or select another one, and click Next to continue. The Proficy Historian for SCADA install proceeds.
20. When a message box appears requesting that you view the release notes, click Yes. Close the release notes after you finish reviewing them to resume the install. The Setup Complete screen appears.
21. Select Yes to restart your computer, and then click Finish.
22. After you restart your computer and the install completes, install your product licensing key:
    - If you have a new key, power off the computer and insert your USB key into the appropriate port.
    - If you have an older key that you are updating, use the update file and follow the instructions from GE Intelligent Platforms to update your key.

23. Restart the computer again. As the computer restarts, log in to Windows with the same user name (with Administrator rights).

    IMPORTANT: *If upgrading from FIX v7 to iFIX with FIX Desktop, do not start iFIX yet. Refer to the Overview of Steps to Upgrade from FIX 7.x section for information on how to proceed.*

24. Check if there are any required Service Packs or SIMs to install for iFIX or Historian (if installed) on the GE Intelligent Platforms Support web site, and install them.

25. If you just installed a SCADA Server, change the default iFIX Administrator password in the Security Configuration program. iFIX must be running to do this. For steps on how to change the password and other user account settings, refer to the Modifying a User Account topic in the Configuring Security Features e-book. Make sure you save this password.

26. If you are using iFIX on a Domain, in a client/server networking configuration, update the HOSTS file with the name of the iFIX SCADA Server, to ensure the highest reliability for connectivity. This update must be done on the server and all clients, as the contents of the HOSTS file should be identical on each node (client and server) in your TCP/IP network. If your iFIX SCADA Server node name is different from the computer name where iFIX is installed, you also need to add this name to each HOSTS file.

    TIPS:

    - *You can find the HOSTS file in the C:\WINDOWS\system32\drivers\etc folder.*
    - *Use a text editor, such as Notepad to edit the HOSTS file, and do not add a file extension to the file.*
    - *An example entry in the HOSTS file is as follows: 198.212.170.4 SCADA01. If SCADA1 was the iFIX SCADA Server node name, but the computer name where the iFIX SCADA Server was installed was AREA1, you would need to add a second line to the HOSTS file for AREA1: 198.212.170.4 AREA1.*
    - *If you do not know the TCP/IP address of the SCADA computer, run the IPCONFIG command on the SCADA Server.*
    - *Be sure to update the HOSTS file on the SCADA Server and each iFIX Client that you install.*
    - *The same, identical entries should appear in the HOSTS file for the iFIX SCADA Server and each iFIX View node (Client) on your network.*

27. If you just installed an iFIX View (Client) node, and you want to be able to view pictures from the SCADA Server from this node, you need to either: copy the pictures from the iFIX SCADA to the iFIX client (no database or other files need to be copied), or map a drive on the View node to the picture folder on your SCADA Server. You should then update the SCU (with Configure > Paths menu option) on the View node to point to this mapped drive location.

Installing the iFIX WebSpace Server

While running the iFIX WebSpace Server and the SCADA Server on the same machine is possible, it is strongly recommended that your iFIX WebSpace Server resides on a **different** machine than the production iFIX SCADA Server. Be aware that you cannot run the iFIX SCADA as a service if both servers are on the same machine.

If you use a relay server and dependent application servers in your iFIX WebSpace configuration, each server (the relay server and all dependent application servers) in your configuration needs to have the iFIX WebSpace Server installed on it. The Relay Server and dependent application servers should be separate from your iFIX SCADA and Proficy Historian for SCADA computer (if Historian is used in your setup). Each dependent application server in your iFIX WebSpace configuration should also be a clone of each other, in terms of iFIX, Historian, and iFIX WebSpace configuration.

The iFIX WebSpace Server will install only if you have a supported version of Microsoft Internet Information Server (IIS) or Apache HTTP Server installed beforehand. If both IIS and Apache are installed, the iFIX WebSpace install will not prompt you to choose one or the other; the iFIX WebSpace install includes files for both IIS and Apache servers in this case (you don't need to choose one over the other – both will run with the iFIX WebSpace).

The steps that follow explain how to install the iFIX WebSpace software from the product install DVD on a computer separate from your iFIX SCADA Server or Proficy Historian Server.

TIP: *Before upgrading an existing iFIX WebSpace Server, make sure you make a list of the settings configured in the iFIX WebSpace Administration application. Any changes to the default settings are not automatically persisted on upgrade. You will need to reconfigure them again after the upgrade.*

▸ To install the iFIX WebSpace Server software:

1. Log in to Windows with Administrator privileges. Ensure that there are no iFIX, FIX, or Proficy processes running, and close any other programs that are running.
2. Insert the iFIX DVD into your DVD drive. The installation screen appears.

   NOTE: *If this screen does not automatically appear, double-click the InstallFrontEnd.exe file on the DVD to display it. A message may appear with a security warning, click Run to proceed.*

3. Click the "Install iFIX" link. A message box appears asking you to confirm the install.
4. Click Yes to proceed. The install program starts and the Welcome screen appears.
5. Click Next to continue. The license agreement screen appears.
6. Click "I accept the terms of the license agreement" if you want to continue, and then click Next. The Setup Type screen appears.

7. Select **Complete** or **Custom** option (to choose the options you want to install along with the iFIX WebSpace Server) and click Next. The Choose Destination Location screen appears.
8. Leave the default path, and click Next to continue.

   IMPORTANT: *In a Relay Server configuration, whether installing to a relay server or dependent application server, the iFIX path must be the same on each computer in your configuration (the relay server and all dependent application servers). For instance, if using 64-bit computers, and you decide to install iFIX to the default C:\Program Files (x86)\Proficy\Proficy iFIX path for one server, the relay server and all dependent application servers should use the same path for the iFIX install.*

9. If you selected the Custom install option, instead of Complete, the Select Features screen appears next. Select the features you want to install, and click Next.

   The Ready to Install Program screen appears.

10. Click Install. The progress of the installation displays on screen as the files are installed. After a few minutes, the Welcome screen for the iFIX WebSpace appears.
11. Click Next to continue. The license agreement screen appears.
12. Click "I accept the terms of the license agreement" if you want to continue, and then click Next. The Destination Folder screen appears.
13. Leave the default path, and click Next to continue. The Ready to Install Program screen appears.

    IMPORTANT: *In a Relay Server configuration, whether installing to a relay server or dependent application server, the iFIX WebSpace path must be the same on each computer in your configuration (the relay server and all dependent application servers). For instance, if you decide to install iFIX WebSpace to the default C:\Program Files\Proficy\iFIX WebSpace path for one server, the relay server and all dependent application servers should use the same path on install.*

14. Click Install. After a few minutes, the Wizard Completed screen appears for the iFIX WebSpace.
15. Click Finish. The install continues. The Proficy iFIX Configure Wizard appears.
16. Leave the default settings, and click OK. For instance, when the iFIX Web Server and the iFIX SCADA Server are on different machines, the Node Type should be **View**, and the Connectivity Type should be **Networked** in this step. The Remote SCADA Node List appears.
17. In the edit field, enter the name of your Remote SCADA node, click Add, and then click OK. Otherwise, click Skip and you can configure this later when you configure your iFIX WebSpace Server.

    A message box requests that you enable Proficy HMI SCADA iFIX through the firewall.

18. Click Yes to continue (otherwise, you may need to do this later). The install continues. After a few moments, a message box appears requesting you install KB 974945 for Microsoft® Visual Basic for applications, which is needed for the iFIX WorkSpace.
19. Click Yes to continue. Another message box appears with the Microsoft license agreement for this

update.

20. Click Yes to continue. A message box appears after the patch installs.
21. Click OK to continue. The Proficy install continues.

A message box appears for Proficy Historian for SCADA.

22. Continue without installing.

    NOTE: *You can later choose to manually install Proficy Historian from the "Install Proficy Historian for SCADA 4.5" link on the DVD installation screen (launched from the InstallFrontEnd.exe application). Be aware that if you want to use Proficy Historian with iFIX, even if your SCADA Server is on another computer apart from your iFIX WebSpace Server, you must at a minimum install the Proficy Historian for SCADA or Proficy Historian Client Tools on the iFIX WebSpace Server. For steps on how to manually install Proficy Historian for SCADA, refer to the Manually Installing the Proficy Historian Software section.*

23. When a message box appears requesting that you view the release notes, click Yes. Close the release notes after you finish reviewing them to resume the install. The Setup Complete screen appears.
24. Select Yes to restart your computer, and then click Finish.
25. Wait for your computer to restart and the install to complete. Next, do the following to install your product licensing key:
    - If you have a new key, power off the computer and insert your USB key into the appropriate port.
    - If you have an older key that you are updating, use the update file and follow the instructions from GE Intelligent Platforms to update your key.
26. Restart the computer again. As the computer restarts, log in to Windows with the same user name (with Administrator rights).

    IMPORTANT: *For 64-bit operating systems, a boot message appears on restart. Be sure to select the operating system with the iFIX WebSpace Enabled, and then proceed with the restart. This message is expected behavior. The iFIX WebSpace service needs this profile to be loaded in order to run.*

27. Check if there are any required Service Packs or SIMs to install on the GE Intelligent Platforms Support web site, and install them.
28. If you are using Microsoft Internet Information Server (IIS) 6.0 or greater, and plan to allow for Mozilla Firefox web sessions, modify IIS to serve a document with an xpi extension as a registered MIME type on that server (MIME type is application/octet-stream, Extension is .xpi). IIS 6.0 and greater does not serve unknown MIME types.

    Please see KB article 326965 on the Microsoft Knowledgebase for more information: http://support.microsoft.com/default.aspx?scid=kb;en-us;326965. According to this KB article, you must restart the World Wide Web Publishing Service or wait for the process to recycle for the changes to take effect. However, it is recommended that you just restart Windows and all applicable services

will be restarted automatically for you.

29. Change the default iFIX Administrator password in the Security Configuration program. iFIX must be running to do this. For steps on how to change the password and other user account settings, refer to the Modifying a User Account topic in the Configuring Security Features e-book.
30. Update the HOSTS file with the name of the iFIX SCADA Server, to ensure the highest reliability for connectivity. If the iFIX SCADA Server node name is different from the computer name that it was installed on, you also need to add this name to the HOSTS file. The HOSTS file on the iFIX WebSpace Server should be identical to the one on the iFIX SCADA Server.

    TIPS:

    - *You can find the HOSTS file in the C:\WINDOWS\system32\drivers\etc folder.*
    - *Use a text editor such as Notepad to edit the HOSTS file, and do not add a file extension to the file.*
    - *An example entry in the HOSTS file is as follows: 198.212.170.4 SCADA01. If SCADA1 was the iFIX SCADA Server node name, but the computer name where the iFIX SCADA Server was installed was AREA1, you would need to add a second line to the HOSTS file for AREA1: 198.212.170.4 AREA1.*
    - *If you do not know the TCP/IP address of the SCADA computer, run the IPCONFIG command on the SCADA Server.*
    - *The same, identical entries should appear in the HOSTS file for the iFIX SCADA Server and the iFIX WebSpace Server.*

31. To allow your iFIX WebSpace Server to view pictures from the iFIX SCADA Server, you need to either:
    - Copy the pictures from the iFIX SCADA to the picture folder on the iFIX WebSpace Server (no database or other system files need to be copied). It is recommended that you use local copies of pictures on the iFIX WebSpace Server machine to optimize your display speed. There may be other files associated with your pictures that you want to also copy.
    - Map a drive on the View node to the picture folder on your SCADA Server. Then, update the SCU (with Configure > Paths menu option) on the View node to point to this mapped drive location. This option can increase display loading time.
32. Continue by configuring your iFIX WebSpace Server using the steps in the Viewing iFIX Pictures from a Web Session e-book.

Manually Installing the Proficy Historian for SCADA Software

The following steps outline how to install the Proficy Historian for SCADA software from the iFIX product install DVD. It is recommended that you install your Proficy Historian Server on a different computer than your iFIX SCADA. If any of your pictures will need to access Historian data, you need at least the Proficy Historian Client tools installed on your iFIX node.

Proficy Historian is the default historian product in iFIX. On upgrades, if Proficy Historian is already installed on the computer, iFIX will default to Proficy Historian as the default historian. When upgrading iFIX on a system where Proficy Historian is not present, Classic Historian will continue to function. For iFIX upgrade steps or for more general information on upgrading iFIX, refer to the Upgrading from an Earlier Version of iFIX and Upgrading from FIX 7.x sections. For more detailed Historian install and upgrade information, refer to the Proficy Historian Getting Started e-book.

The following steps describe how to install Proficy Historian Server or Client components, on the same computer as iFIX or iFIX WebSpace, or on a completely different machine.

To manually install the Proficy Historian software:

1. Log in to Windows with Administrator privileges. Ensure that there are no iFIX, FIX, or Proficy processes running, and close any other programs that are running.

   ***NOTE**: If you plan to use the integrated Proficy Historian features in iFIX, you must shut down Historian services and licensing prior to installing iFIX and Historian.*

2. Confirm that iFIX is already installed.
3. Back up all the Historian archive data files (*.iha), configuration files (*.ihc), and any other backup files you maintained. By default, you can find these files in the c:\Proficy Historian Data\Archives folder. Make a copy of those backup files.
4. From the Add or Remove Programs feature in the Control Panel, manually uninstall Proficy Historian. Do Not Delete Archives when prompted.
5. Restart your computer.
6. Insert your iFIX DVD into your DVD drive, and click the “Install Proficy Historian for SCADA 4.5” from the iFIX install screen.

   ***NOTE:** If this install screen does not automatically appear, double-click the InstallFrontEnd.exe file on the DVD to display it. A message may appear with a security warning, click Run to proceed. You can also access this setup.exe installer from the Setup\Proficy\Historian45SCADA\FullInstaller folder on the iFIX DVD.*

7. Follow the steps on your screen.
8. After the install completes, restart your computer. It is very important not to forget this step, and to

restart your computer.

9. After you restart your computer and the install completes, install your product licensing key:
    - If you have a new key, power off the computer and insert your USB key into the appropriate port.
    - If you have an older key that you are updating, use the update file and follow the instructions from GE Intelligent Platforms to update your key.
10. Check if there are any required Historian Service Packs or SIMs to install on the GE Intelligent Platforms Support web site, and install them.
11. Restore your Historian archive using the Historian Administrator.
12. Copy your configuration files (*.ihc) to the Archive folder.
13. Configure iFIX and your Historian Server. For overview steps, refer to the Configuring iFIX to Use Proficy Historian section.

Using iFIX with Proficy Historian for SCADA

Beginning with iFIX 5.0, you can easily configure Proficy Historian to be your historian. The application is integrated with iFIX, which means that after configuring the Proficy Historian, you can perform the following tasks in iFIX:

- Set Proficy Historian tags for collection for the iFIX database.
- Insert a Historical Data Link into your picture in the iFIX WorkSpace.
- Use VisiconX data and grid objects to access Proficy Historian data from the iFIX WorkSpace.

Although Proficy Historian for SCADA is integrated with iFIX, you do not have to use Historian in the iFIX WorkSpace. When making your decision on how you want to use Historian, keep the following considerations in mind.

Configuration Considerations

Although many of the features of Proficy Historian can be configured in iFIX, some cannot. They must be configured directly in Historian. These features include:

- Security
- Alarms, if you are using them
- Collection on any field other than F_CV.
- Archive compression

- Archive back-up
- Other tag properties not configurable in iFIX
- Historian parameters for Database Dynamos, or loadable blocks
- Redundancy

IMPORTANT:

- *Be aware that while Proficy Historian for SCADA can store both String and Numeric data, the iFIX data system can only retrieve Numeric data for historical datalinks.*

- *Text block values, which the Proficy Historian for SCADA data system does NOT support retrieving, are also not supported as a the data source for historical datalinks in iFIX.*

Other Considerations

Multiple Databases

Only a single, local database is supported with Proficy Historian for SCADA. If you want to use multiple databases, you may want to use Proficy Historian separately from iFIX. When used together, Historian does not recognize tags from the iFIX database with the same name as different tags, even though the source is different. So, tags that exist in your iFIX database are ignored. The data that is populated comes from Historian, not from the iFIX database. To avoid this problem, verify that each tag has a unique name.

For example, you have a tag called AI1 in both Process Database 1 (PDB1) and Process Database 2 (PDB2). Both tags are added to Historian as FIX.AI1.F_CV. If you reload PDB1 and then PDB2, the AI1 tag is overwritten in Historian.

Collection Delay

When iFIX and Proficy Historian for SCADA are used as an integrated application, rather than as separate applications, it takes longer for tags to update if the Collector is running. Additions, deletions and modifications of tags may take twice as long to display – approximately two minutes, instead of one – than if each application was used separately.

Collectors

If you choose to use Historian, not all installed collectors will be available for selection as the default Collector. Because this feature only supports collectors that read data from iFIX, the collectors available for selection are limited to the following:

- iFIX Native Collector

- OPC Collector reading from Intellution.OPCEDA or Intellution.OPCiFIX OPC servers

Electronic Signatures

If you use electronic signatures, then you should probably not use the integrated Historian feature. If a tag requires an electronic signature in Historian and does not in iFIX, and a user makes a change in iFIX, the user is not prompted for a password. Instead, the change is made, bypassing Historian's electronic signature requirement.

Spare1 Fields

When used with iFIX, the Historian Spare1 fields are used to keep track of tags that were added or modified by iFIX. When you enable Collection for a tag in the iFIX Database Manager (on the Proficy Historian tab, in the Collection Options area), the Spare1 field is assigned to iFIX. iFIX controls the creation or modification of this tag in Historian. In other words, iFIX becomes the owner of the Spare1 field. The Spare1 fields are written to when an iFIX tag is added for the first time from iFIX to the Historian Server. The Spare1 field contains the iFIX database name.

If you want to use the Spare1 field in Proficy Historian to allow data to be written to Proficy Historian from a third party application separate from iFIX, you need to Disable Collection on the tag from within iFIX (which is the default setting for any new tags you add in iFIX Database Manager). When disabled, Proficy Historian collection is not enabled for the tag and the tag is handled exclusively by Proficy Historian. When the tag is being handled by Proficy Historian, it cannot be modified or deleted from iFIX.

Result of Not Installing Historian

If you choose not to install Historian, be aware of the following:

- iFIX database tags from Database Manager will not automatically be added, updated, or deleted to or from Historian.
- Users will not be able to update the Proficy Historian tab of Database Manager blocks.
- Imported or exported database tags will have default values in the Historian field but will not be used.

Choosing Not to Install Integrated Historian

If you do not want to install integrated Historian, and continue using Historian as you did before, then never do the following:

- Select the Automatically Configure Tags for Collection in Historian on the Proficy Historian tab of the User Preferences dialog box.
- Use Proficy Historian fields in iFIX Database Manager to configure anything in Historian.

Post-Installation Steps for Historian

If you choose to install Historian, there are post-installation steps you will need to perform. For more information, see Configuring iFIX to Use Proficy Historian and Configuring Security When Using iFIX with Proficy Historian.

Configuring Security When Using iFIX with Proficy Historian

Beginning with iFIX 5.0, iFIX configures Historian by adding and deleting tags and changing tag properties. Therefore, applicable security measures must be configured. However, tag level security and Historian domain security cannot be configured in the iFIX application; it must be done in Historian.

For Historian domain security, see "User Privileges for Starting a Collector" in the Historian e-book.

For all other security considerations for Historian, see the chapter "Implementing Historian Security" in the Historian e-book.

Configuring iFIX to Use Proficy Historian for SCADA

The following tables describe the process for configuring iFIX to run with Proficy Historian for SCADA:

Configuration Process - New Install

Stage	Description
1	Install iFIX.
2	At the end of the iFIX install, click Yes to install Proficy Historian for SCADA.
3	Restart your computer.
4	Start iFIX and the WorkSpace.
5	In the iFIX WorkSpace, verify that Historian Server is set to Proficy Historian and not Classic Historian. Restart the iFIX WorkSpace.

Stage	Description
6	In the iFIX WorkSpace, in the Configure the Proficy Historian Server(s) dialog box, configure the Historian Server. Set a default collector, so that tags are automatically added to Historian from iFIX using that collector.
7	Start the Database Manager application. In the iFIX Database Manager, add the blocks that you want to start collecting on. Use the Proficy Historian tab to enter the information from Historian. Save your database.
8	After approximately two minutes, in the Historian Administrator, check that your tag was added. If your tag was not added or collected in Historian, check the log file confighist.txt in the iFIX\LOCAL directory.
9	Verify configuration. Add a Historical datalink to your picture, switch to run mode, and view the last value collected in the datalink.

Configuration Process - Upgrade to Proficy Historian for SCADA

Stage	Description
1	If upgrading from a previous release of iFIX and you have Historian installed on the PC, shut down all Proficy services and licensing prior to installing iFIX and Historian.
2	Install iFIX.
3	Back up all the Historian archive data files (*.iha), configuration files (*.ihc), and any other backup files you maintained. By default, you can find these files in the c:\Proficy Historian Data\Archives folder. Make a copy of those backup files.
4	From the Add or Remove Programs feature in the Control Panel, manually uninstall Proficy Historian. Do Not Delete Archives when prompted.
5	Restart your computer.

Stage	Description
6	Insert your iFIX DVD into your DVD drive, and click the “Install Proficy Historian for SCADA 4.5” from the iFIX install screen. **NOTE:** If this install screen does not automatically appear, double-click the InstallFrontEnd.exe file on the DVD to display it. A message may appear with a security warning, click Run to proceed. You can also access this setup.exe installer from the Setup\Proficy\Historian45SCADA\FullInstaller folder on the iFIX DVD. Follow the steps on your screen.
7	After the install completes, restart your computer. It is very important not to forget this step, and to restart your computer.
8	Restore your Historian archive using the Historian Administrator.
9	Copy your configuration files (*.ihc) to the Archive folder.
10	Configure iFIX and your Historian Server. For overview steps, refer to the Configuring iFIX to Use Proficy Historian section.

Using the Discover and Auto Configure Tool with Proficy Historian

Not only can you can use the Discover and Auto Configure tool to automatically add tags to your iFIX database, but you can also choose which tags get collected on in Proficy Historian as well.

Additionally, you can configure the Proficy Historian description and the interval for the collection for each tag through Discover and Auto Configure. For information about adding Proficy Historian fields in Discover and Auto Configure, refer to the Adding Proficy Historian Fields as Columns topic.

Before you begin collection, however, you must have your Historian Server is configured, and your iFIX Collector configured as your local, default collector.

Be aware of your license limits for Proficy Historian. Your Proficy key limits the number of iFIX tags you are permitted to add to the Proficy Historian Server for collection. Use care when you select which tags that you want to collect on in Discover and Auto Configure. You do not want to exceed your license limits.

For more information on this tool, refer to the Discover and Auto Configure e-book.

Online Registration

You can register iFIX online after you have installed the product.

To register iFIX online:

1. In Classic view, from the WorkSpace's Help menu, point to Proficy iFIX WorkSpace Help, and then GE Intelligent Platforms On the Web, and click Register Online.

   -Or-

   In Ribbon view, click the WorkSpace button, and then on the Application menu, click Options. On the Options dialog box, select Resources from the navigation plane, and then click Register.

2. Enter the appropriate fields on the registration form, and click Next until all pages are completed.

Additional Resources

You can access many additional resources after you install your product. To do so, use one of the following procedures.

***NOTE**: The following procedures apply only to Ribbon view.*

To access technical support online:

1. Click the Application button and then on the Application menu, click Options.
2. In the Navigation pane click Resources.
3. Click Support.
4. Click OK on the Resources page.

To access GE Intelligent Platforms online:

1. Click the Application button and then on the Application menu, click Options.
2. In the Navigation pane click Resources.
3. Click Home Page.
4. Click OK on the Resources page.

To determine the software version number:

1. Click the Application button and then on the Application menu, click Options.
2. In the Navigation pane click Resources.
3. Click About.
4. Click OK.
5. Click OK.

Using iFIX and FIX on the Same Computer

Although you can run iFIX and FIX Desktop applications at the same time, you cannot run iFIX and FIX 7.0 at the same time on a single computer. You can have iFIX and FIX 7.0 installed on the same computer, however. The following sections address issues that occur when installing iFIX and FIX 7.0 on the same computer.

NOTE: *Because the hardware key for iFIX with FIX Desktop is different from the FIX USB key, remember to remove the iFIX USB key and insert a FIX hardware key before installing or running FIX 7.0.*

General Notes on Installing FIX and iFIX on the Same Computer

When installing FIX 7.0 on a computer that already has iFIX installed (or vice versa) do not elect to use the current SCU configuration when prompted during the install. If you select to use the current SCU, both FIX and iFIX will launch with errors when you try to run either program after the install.

Installing iFIX on a FIX 7.0 Node

If you install iFIX on a node that has FIX installed and you have at least one version 7.0 driver installed, the registry paths for FIX 7.0 are changed to iFIX paths. Therefore, when you run a FIX 7.0 application, such as the System Configuration Utility, you will receive errors.

To avoid these errors, install iFIX without I/O drivers. This preserves your FIX 7.0 paths in the registry.

Uninstalling iFIX and FIX 7.0

You can install iFIX and FIX 7.0 on the same computer. If you subsequently uninstall iFIX, you must re-install FIX 7.0.

Starting up FIX 7.0 After Installing iFIX

An application error occurs when you start up FIX 7.0 as a service under Windows after you install iFIX. The error occurs because both FIX 7.0 and iFIX use the same key name (FIX) under the Services key in the registry. Therefore, when you install iFIX, it overwrites the entry for FIX 7.0.

Each product needs to have its own Services key. FIX 7.0 runs correctly if it is not run as a service.

The workaround for this problem is to edit the registry so that the Services key points to the service executable in the correct path. The key is located in HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\Fix. Set the ImagePath value to the correct path for fixsrv.exe.

Installing iFIX after Uninstalling iVisualize

If you have uninstalled iVisualize®, you must modify the FixUserPreferences.ini file before installing iFIX. This file is located in the C:\Program Files\Proficy\Proficy iFIX\Local folder.

The section [AppConfigPicturePreferences] contains the following lines:

```
TotalConfigPicturePath=1
PicturePath#0=*C:\Program Files\Proficy\Proficy iFIX\PDB\PanelStart.ivs
```

Change TotalConfigPicturePath=1 to TotalConfigPicturePath=0 and delete the line that reads PicturePath#0=*C:\Program Files\Proficy\Proficy iFIX\PDB\PanelStart.ivs.

You will then be able to install the latest version of iFIX.

Using iFIX with Microsoft Office

You can use the Microsoft Office family of products and iFIX on the same computer. However, to ensure that VBA works correctly, install Microsoft Office products before installing iFIX.

Use the following table as a guide for installing and removing either product.

If you have...	And you want to...	Then...
Installed iFIX	Install Microsoft Office Products	Remove iFIX, install Microsoft Office products, and re-install iFIX.

If you have...	And you want to...	Then...
Installed Microsoft Office Products	Remove Microsoft Office Products	Remove iFIX, remove Microsoft Office products, and re-install iFIX.
Started the iFIX WorkSpace for the first time, and this message appears: Run time error "48": Error in loading dll.	Use iFIX and Microsoft Office harmoniously	Uninstall iFIX, uninstall Microsoft Office, re-install Microsoft Office, and re-install iFIX.

Backup Files

When you save one of the following files, iFIX creates a backup file:

- ***.PDB** – backed up as *.^DB
- ***.SCU** – backed up as *.^CU
- **Profiles.cfg** – backed up as Profiles.cfg.^AK
- **DISPLAY.DOV** – backed up as DISPLAY.^OV
- **NODENAME.DOV** – backed up as NODENAME.^OV

iFIX also creates these backup files after you start iFIX for the first time after an upgrade. These backup files are helpful in disaster recovery of the individual files.

For new iFIX installs, be aware that you can also use the Factory Default Backup for disaster recovery – performing a clean restore of your entire iFIX system. A clean restore includes the files listed above along with other Factory Default files. For more information, refer to the Using and Creating Factory Default Files section in the Understanding iFIX electronic book.

For upgrades, be aware that you can perform a Custom Backup to backup the files listed above before the upgrade. After the upgrade, you can restore these files with the Backup and Restore wizard. Refer to the Overview of the Backup Process section in the Understanding iFIX electronic book for more information.

IMPORTANT: *Do not use a Full Backup from a previous release of iFIX to update the files in the currently installed iFIX folder. Issues can occur with upgrade paths, and possibly other files.*

Optionally, after you upgrade your system with the Custom Backup, you can create a new Factory Default Backup, that you can use for disaster recovery in replace of the original Factory Default Backup file. This information is described in the Using and Creating Factory Default Files and Sample BackupRestore.ini sections.

Proficy Change Management and iFIX

If you plan to use Proficy Change Management with iFIX, to help you manage your iFIX project files, and track changes to these files, install iFIX first. After you install iFIX, you can install Proficy Change Management 5.8 or 5.9.

Additionally, you need to configure a few items on both iFIX and the Change Management Server, as described in the Setting up iFIX for Use with Change Management topic in the Change Management and iFIX e-book.

NOTE: *If you want to run iFIX with other Proficy products, such as Proficy Change Management, you will need to upgrade to an M4 key. For more information, refer to the The USB Key section.*

If you are upgrading an iFIX computer with the Proficy Change Management, upgrade to Proficy Change Management 5.8 or 5.9.

iFIX WebSpace

The iFIX* WebSpace product allows you to open iFIX pictures in run mode from a web browser. The iFIX WebSpace is a server-based, thin-client solution that eliminates the need for Citrix MetaFrame or Windows Terminal Services.

The iFIX WebSpace Server is a keyed option that you can purchase for use with your iFIX SCADA or Proficy Pulse client.

For more detailed information on the iFIX WebSpace, including configuration information, refer to the Viewing Pictures from a Web Session e-book.

Discover and Auto Configure

The Discover and Auto Configure is a tool used to extract tag information from PLC programming software files or OPC servers and then add the tags to your target application's iFIX database. Using the Discover and Auto Configure tool saves you valuable time and effort when creating tags for your driver(s) and iFIX application database because you no longer need to manually create the individual tags.

You can currently extract information using the following Discovery Agents:

- OPC Discovery Agent
- Siemens S7 Discovery Agent
- Allen-Bradley PLC-5/SLC 500/MicroLogix Families Discovery Agent
- IGS - Industrial Gateway Server Discovery Agent

Not only can you automatically generate tags for OPC, Siemens S7, and Allen Bradley, but with the Industrial Gateway Server (IGS), you have support for tag creation in over 90 protocols.

Within Discover and Auto Configure, you can also configure the iFIX tags that you want to collect on in Proficy Historian (through the iFIX Collector). For information on using Discover and Auto Configure with Proficy Historian, refer to the Using the Discover and Auto Configure Tool with Proficy Historian section.

For more information on this tool, refer to the Discover and Auto Configure e-book.

Optional Hardware

iFIX supports the following optional hardware. You may want to purchase one or more of these items to enhance your iFIX system.

- A Microsoft-supported touch screen or other pointing device.
- A DigiBoard™ to provide your computer with up to 9 serial ports. If you are using multiple I/O drivers or multiple ports for one I/O driver, you may require the use of a DigiBoard. GE Intelligent Platforms has tested and supports the Digichannel PC/8E.

Installing the FIX Desktop and Classic Historian Software

FIX Desktop helps FIX customers who want to migrate their FIX applications to iFIX ones, but do want to migrate everything at once, or still want to retain some of their old pictures, as they create new ones going forward in iFIX. With FIX Desktop, you can simultaneously run iFIX along with Draw, View, and HTD applications (which are all installed as part of the FIX Desktop option). In moving to iFIX with FIX Desktop, you get the support of the newer operating systems that iFIX supports, along with other newer iFIX features.

If you are upgrading from a previous version of iFIX, you do not need to reinstall FIX Desktop. Your existing FIX Desktop applications will work as-is after the upgrade, and you do not need to install any additional applications.

IMPORTANT: *The FIX Desktop option is only available for 32-bit operating systems. It is not supported on*

64-bit operating systems.

***NOTE:** Be aware that the changes to support 15 digits of precision in iFIX 4.5 and greater are not supported in FIX Desktop applications such as Draw and View. If you try to use this feature in FIX Desktop applications, you will get unexpected results.*

To install FIX Desktop option you need to browse the folders on the product install DVD. The FIX Desktop installer is included in the ..\Setup\Proficy\Legacy subfolder.

The steps that follow explain how to install the FIX Desktop software from the product install DVD, after you install iFIX. Once you install FIX Desktop, and restart your computer, you will be able to access Draw, View, and Historical Trend Display (HTD) from the FIX Desktop folder in the system tree in the iFIX WorkSpace.

To install FIX Desktop software after installing iFIX:

1. Ensure that there are no iFIX, FIX, or Proficy processes running, and close any other programs that are running.
2. Log in to Windows with Administrator privileges.
3. Insert the iFIX DVD into your DVD-ROM drive. The iFIX installation screen appears.

   ***NOTE:** If this screen does not automatically appear, double-click the InstallFrontEnd.exe file on the DVD to display it. A message may appear with a security warning; click Run to proceed.*

4. Click the "Browse the DVD" link.
5. Drill down to the Setup\Proficy\Legacy folder.
6. Double-click the iFIX55_Pulse15_FD.exe to run the installer. The Welcome screen appears.
7. Click Next to continue. The license agreement screen appears.
8. Click "I accept the terms of the license agreement" if you want to continue, and then click Next. A message box appears asking if you would like to update the Factory Default Settings.
9. Click Yes to continue. The install proceeds.

   A message appears requesting that you update your Factory Default file.

10. Click Yes to continue. When the install completes, a final screen appears.
11. If you want to view the release notes, select the View Readme.txt File option. Otherwise, leave the check box cleared.
12. Click Finish.
13. Restart your computer.

    After iFIX is started, FIX Desktop applications (Draw, View, Historical Trend Display) will be

available via the system tree in the iFIX WorkSpace.

IMPORTANT: *If upgrading from FIX v7, do not start iFIX yet. Refer to the Overview of Steps to Upgrade from FIX 7.x section for information on how to proceed.*

Uninstalling iFIX

To uninstall iFIX, from the Control Panel, in the Add or Remove Programs dialog box, click the Remove button next to the Proficy HMI SCADA - iFIX entry. This action launches the install program allowing you to remove the iFIX product.

If you want to uninstall other items that install along with iFIX, such as the iFIX OPC Client, the Proficy Change Management Client API, M4 Common Licensing, Proficy Discover and Auto Configure application, you need to uninstall these items separately.

IMPORTANT: *For the Proficy Discover and Auto Configure (DAC) application, it is recommended that you uninstall it before you uninstall the iFIX product. If you wait until after you uninstall iFIX, the DAC uninstall will display error messages.*

Sleep or Hibernate Mode

If your SCADA computer has been sleeping overnight, or in hibernate mode, be aware that you will need to acknowledge all of the queued "License Warning" messages.

Upgrading from an Earlier Version of iFIX

This chapter contains information about issues concerning upgrading your iFIX version. Issues specific to upgrading from iFIX 2.5 and earlier are clearly marked.

The Database and the Upgrade

Be aware that when you upgrade to the current version of iFIX, the file size of your process database file will increase.

Also, when you upgrade your database, the high and low engineering units (EGU) fields are converted from single precision to double precision floats. What that means, is that the degree of accuracy (the Epsilon value) changes from +/_0.00000012 to +/_0.00000000000000022. If you are using extreme ranges (very large or very low values) for your EGU limits, you may possibly experience issues after an upgrade. To resolve these issues, open the Database Manager, export your database and then re-import it. This procedure resets the block values.

SCADASync.ini File and the Upgrade

Be aware that the during the upgrade, as part of the updated Enhanced Failover functionality in 5.5, the existing SCADASync.ini file will be overwritten. This happens so that the SCADASync.ini will be updated to include the new default value of 0 for the CheckClientConnectionsInterval parameter.

iFIX WebSpace Administrator and the Upgrade

Be aware that the during the upgrade, as part of the updated iFIX WebSpace functionality in 5.5, any custom settings that you configured in the iFIX WebSpace Administration application will be overwritten on upgrade. Be sure to take note of your settings before upgrading, so that you can re-configure them again after upgrading.

DDA Drivers and the Upgrade

If you are using DDA drivers, such as ROC, BR3 or MBR, you must reinstall them after upgrade. If the driver installation files are unavailable, you can use a copy of your existing FIX.INI file to compare to the one created after the upgrade. Then, copy the missing lines from your old FIX.INI file to your new FIX.INI file.

Before You Upgrade

Before you upgrade your version of iFIX make sure you:

- If you are upgrading an iFIX computer with the Proficy Change Management, upgrade to Proficy Change Management to the latest version.
- Shut down all Proficy applications. It is important that no Proficy products are running when you run the iFIX installation program.
- Save copies of your existing .INI files with your application preferences and any custom files you create. Customized files, such as *Res.dll files, and some *.INI files may be overwritten during an upgrade. As such, you may need to integrate your custom changes into the newer versions of these files after you upgrade.
- Back up your existing iFIX projects. This includes the files in your LOCAL, Config Files Backup, PIC, and PDB folders.
- It is also recommended that you create a backup copy of your Alarm ODBC configuration file(s).
- Export a report of your system configuration (SCU), for reference. (In the SCU, on the File menu, click Report. Refer to the Generating a System Configuration Report section for detailed steps.)
- Export a report of your security configuration, for reference. (In the Security Configuration application, on the File menu, click Export. Refer to the Exporting a Report of the Security Configuration section for detailed steps.)
- If you have an application created by an Integration Toolkit, Database Dynamo Toolkit, or System Extension Toolkit from iFIX 2.5 or earlier, and you want to use this application with latest version of iFIX, do not uninstall iFIX. You must install the newer version of iFIX over your existing iFIX configuration. Your toolkit application will not run if you uninstall your previous version of iFIX.
- Be sure to obtain any toolkit updates that you need, prior to installing iFIX. For instance, if you have previously installed the iFIX Productivity Pack for Allen Bradley, you must get the updated version prior to upgrading iFIX.
- If you plan to use Enhanced Failover feature provided in iFIX, review the Enhanced Failover and Upgrading section.

Steps to Upgrade from an Earlier Version of iFIX

To upgrade from earlier versions of iFIX

1. Update your license and/or USB key. For steps refer to the Upgrading the iFIX License section.
2. Log in to Windows with Administrator privileges.
3. Ensure that there are no iFIX, FIX, or Proficy processes running, and close any other programs that are running.
4. Insert the iFIX DVD into your DVD-ROM drive. The iFIX installation screen appears.

   NOTE: *If this screen does not automatically appear, double-click the InstallFrontEnd.exe file on the*

DVD to display it.

5. Click the "Install iFIX" link. A message box appears asking you to confirm the install.
6. Click Yes to continue. The install program starts and the Welcome screen appears.
7. Click Next to continue. The license agreement screen appears.
8. Click "I accept the terms of the license agreement" if you want to continue, and then click Next.

   A message box appears indicating that a previous version of iFIX has been detected.

9. Click Yes to upgrade.

   CAUTION: *If you select No to this message, you can no longer run the older version of iFIX. By default, iFIX installs to the C:\Program Files\Proficy\Proficy iFIX folder instead. THIS IS NO LONGER AN UPGRADE. Use caution in copying files from your previous iFIX release, into your new iFIX install folder.*

   The Setup Type screen appears.

10. Select Complete and then click Next. If you selected Custom instead, you will be prompted later to select your install features. The Ready to Install Program screen appears.
11. Click Install. The progress of the installation displays on screen as the files are copied. After a few moments, a message box appears asking if you would like to review the release notes.
12. Click Yes to view the release notes. Close the release notes after you finish reviewing them to resume the install. The Setup Complete dialog box appears.
13. Click Yes to restart your computer now, or No to do it later.
14. Click Finish.

    NOTE: *Be sure to restart your computer before starting iFIX. As the computer restarts, log in to Windows with the same user name (with Administrator rights).*

Upgrading the iFIX License

The instructions for upgrading your iFIX license depend on the key you have and the enabled options you want. You may need to run an update program, or you may need to exchange your key for a newer one. iFIX only supports HASP M4 keys.

The version and type of key you have should appear imprinted on the outside of the key. If you do not know what type of key you have, check the label on the physical key. If you are still unsure whether you need to exchange your key for a new one, contact your iFIX sales representative.

Upgrading from iFIX 2.6 or Later

When you upgrade iFIX from version 2.6 or later, you are required to update the license on each iFIX machine. If you have an M4 key, GE Intelligent Platforms provides utilities to help you perform this task.

If you have an M1 key, you must replace it. This requires you to physically remove the M1 key and insert the new USB key. For steps on how to install a USB key, refer to the Installing the USB Key section. For information about replacing your key, contact your iFIX sales representative.

For an M4 key, use the Proficy License Viewer to update your license. To perform a key update:

- For the Proficy License Viewer, you will need to obtain a .plic update file with specific information about your key.

For information about obtaining the .plic file, contact your sales representative. You will receive the new licensing file by disk or by e-mail.

If you receive the error message, "Workspace encountered a problem and needs to close. We are sorry for the inconvenience," while registering, it is probably because you have an unsupported key, such as the Rainbow SuperPro. If you have a Rainbow SuperPro (Sentinel) key, which was offered for iFIX 2.6 (before 2002), this key must be exchanged for a newer key, if you want to upgrade iFIX.

To update the license with the .plic file:

1. Save the .plic file to a directory of your choice.
2. Double-click the file. The Key Update utility appears. The full path to your .plic file should appear in the Update File text box. If it does not appear, browse to it.
3. Click Update Now to update your USB key.

   The utility validates your current license. If the validation is successful, the utility updates the license; if the validation is not successful, the upgrade is halted.

Upgrading from iFIX 2.5 and Earlier

When you upgrade to iFIX from version 2.5 or earlier, you are required to replace your existing USB key and license with a new hardware key and license. You should return your old key to GE Intelligent Platforms. For information about obtaining a new USB key and license, or returning your old key, contact your iFIX sales representative.

For more information about the new USB key, see The USB Key section of this manual.

Preserving Settings when Upgrading

When iFIX is installed, all previously existing configuration files in the iFIX Local folder, with the exception of the *Res.dll files, are backed up to the C:\Program Files\Proficy\Proficy iFIX\Config Files Backup folder. To preserve these settings, after the install, copy your customized changes from these backup files into each current file located in the Local folder. Do not copy and paste the entire file into the Local folder because it would overwrite any new settings installed with the latest version of iFIX.

Notes on Database Dynamos and Custom Programs that Run with iFIX Startup

When you install the newest release of iFIX, the product install program places a new version of the startup control file, FIX.INI, into your iFIX Local directory. The previous version of this file is copied to the iFIX Config Files Backup folder, along with the other configuration files.

If you configured Database Dynamos, also known as loadable blocks, or other custom programs to run as part of iFIX startup, you should compare the new FIX.INI file in the Local folder against the FIX.INI file stored in the Config Files Backup folder. If you find any changes between the two files, add the necessary lines to the new FIX.INI stored in the Local path. Do not copy the old FIX.INI over the new FIX.INI file.

NOTE: *Paths with embedded path spaces in the FIX.ini require quotes. For example:*
RUN="%E:\PROGRAM FILES\PROFICY\PROFICY IFIX\SysAlertQMgr.exe" /F /NSysAlertViewer

SCU Files and the Upgrade

If a previous version of iFIX already resides on your computer when you try to install the latest version of iFIX, a message box appears during the installation suggesting that you upgrade your existing iFIX install. It is recommended that you elect to upgrade iFIX when this message appears. By following the upgrade process, iFIX installs to same folder where your previous version existed. For example, if you have iFIX 3.5 installed to the C:\Dynamics folder, when you upgrade, the newer version of iFIX installs to the C:\Dynamics folder. After the iFIX upgradel completes and you restart iFIX, your SCU file is upgraded automatically, and the original file is backed up with a .^CU extension.

If you choose not to upgrade and install iFIX to another path, such as the default: C:\Program Files\Proficy\Proficy iFIX, there are a few extra steps you need to perform before you can start the older version SCU file in the latest version of iFIX. First, you must rename the older version SCU file, so that the name is different than the default iFIX SCU file. For instance, if you try to start an iFIX 4.0 SCU file in the latest version of iFIX, when the names of both SCU files are the same, an error message appears instead. So, be sure to rename your iFIX 4.0 SCU file to something other than the startup default file name before opening it in the upgraded iFIX System Configuration Utility. After launching the SCU application, open the older SCU file. Now you can manually update the information in it, as described in the steps below.

Be aware that if you have a Custom Backup available of your node with the previous version installed, you also can use that file to upgrade your SCU. During the restore, make sure you select the Use SCU File from Archive check box. If the SCU file name you are upgrading is the same as the iFIX default SCU file name in the latest version, you need to change the path configuration at this point. Click on the View Project Path Configuration button to check the current paths. In the Project Path edit box, enter the iFIX install path. This upgrades your SCU file automatically, however you still have to manually update other SCU information in the System Configuration Utility, as described in the steps below. For more information on the restore process, refer to the Overview of the Restore Process section.

IMPORTANT:

- *You do not need to use a Full Backup from a previous release of iFIX if you are just upgrading the SCU file. Instead, use a Custom Backup. Make sure that you back up the SCU only in the .fbk file and restore it only in the latest version of iFIX. If you do a Custom Backup, click "NO TO ALL" other files when restoring just the SCU file. Do not use a Full Backup between iFIX versions. Issues can occur with upgrade paths, and possibly other files.*

- *During a restore, use caution in restoring other configuration files. For instance, if you overwrite the .INI files in your iFIX Local folder, you lose all of iFIX .INI settings from the latest version. After that is done, there may be issues that cause iFIX or certain features not to work properly. For instance, if you overwrite the FIX.ini file with a 3.5 one, you need to remove or comment out the RUN=REGISTERHELPFILES line in order to start the latest version of iFIX with this file.*

To update the SCU information manually:

NOTE: *The following steps describe how to modify an SCU file with a path outside the install path, so that you run it in iFIX.*

1. Shut down iFIX.
2. On the Start menu, point to Programs, Proficy HMI SCADA - iFIX, and then System Configuration to open the SCU.
3. From the SCU Configure menu, click Paths.
4. In the Path Configuration dialog box, change the base path and NLS path to point to the local install path. Change the project path to point to the project destination folder, if it does not already do so.
5. From the SCU Configure menu, click Tasks.
6. In the Task Configuration dialog box, change the path of the configured tasks to the local install path, make sure that you include the same command line options.
7. From the SCU Configure menu, click Network.
8. In the Network Configuration dialog box, confirm the information is correct and make changes if necessary.

9. From the SCU Configure menu, click SQL, and then click Configure SQL Tasks.
10. In the SQL Task Configuration dialog box, make sure that the Primary and Backup paths are correct, if used.
11. From the SCU Configure menu, click Local Startup Paths.
12. In the Local Startup Definition dialog box, change the path to the folder you copied the project to with the get command.
13. From the SCU File menu, click Save. Save it as the default startup SCU file name or indicate that this is the SCU you want to use on startup.
14. Restart iFIX.

Enhanced Failover and Upgrading

If upgrading from previous versions prior to iFIX 5.0 with failover enabled, and you want to use the Enhanced Failover feature in iFIX, be aware that:

- The Enhanced Failover feature is a keyed option. You must purchase the additional Enhanced Failover option (SCADA Failover) if you plan to use SCADA Failover in iFIX. If you had purchased the Ack Failover option in your previous version of iFIX, your key upgrade will include the new SCADA Failover option.
- If you purchased the Failover feature when you bought a previous version of iFIX, then your iFIX .plic license file update will enable the Enhanced Failover option automatically. Be aware, when you use the Proficy License Viewer in iFIX, that the part description changed from "ACK Failover" to "SCADA Failover."
- Before installing iFIX, it is recommended that you confirm that the SCADA Failover option is enabled on your key. iFIX software checks the Enhanced Failover option at startup. Without this option enabled, the Enhanced Failover functionality will not work. An error message appears if you try to run iFIX with the SCADA Failover feature.
- If your SCADA key does not show the SCADA Failover functionality enabled, and you purchased this additional option, please contact you sales representative before upgrading.
- When you upgrade your iFIX SCADA node to the latest version of iFIX, you will need to make configuration changes on your iFIX SCADA nodes for the Enhanced Failover feature to work properly. For example, the Data Sync Transport dialog box in the System Configuration Utility (SCU) is new in iFIX 5.0 and greater. It requires that you enter the partner's IP address on both the primary and secondary SCADA nodes.
- You can choose to upgrade your iClent (View) nodes with Failover enabled, or to continue using your iClient (View) nodes with Failover enabled from any previous version of iFIX. There are no additional steps to configure the Enhanced Failover feature on the iClients if you already configured them in previous releases.

- The Alarm Acknowledgement synchronization feature from previous iFIX versions is NOT supported on upgraded SCADA nodes. The Alarm Acknowledgement functionality is replaced by the database synchronization and alarm area files.
- It is required that you use a dedicated network between the primary and secondary SCADA nodes for dedicated SCADA-to-SCADA traffic. If the SCADA nodes are physically close to each other, then a crossover cable can be used.
- It is strongly recommended that the network components (LAN adapters, hubs, switches, cables, etc.) used for SCADA-to-SCADA connection of the SCADA pair support a minimum 1 Gigabit Ethernet. This allows for a higher rate of speed for data transfer between the primary and secondary SCADA nodes.
- You will need to configure a primary and a "secondary" SCADA node. One SCADA will be in Active mode (processing data and alarms) while the other will be in Standby mode. This is unlike previous versions of iFIX, where you configured a primary and "backup" SCADA node and both nodes were processing data and alarms. The concept of the SCADA pair still exists in iFIX, but GE Intelligent Platforms does not support using your standby SCADA as a development machine (for example, for database or picture development). However, there is a maintenance mode that allows you to upgrade your SCADA configuration without requiring a SAC restart.
- Stratus solutions will continue to be supported in iFIX. Any Stratus SCADA nodes that you want to upgrade to use Enhanced Failover will require configuration changes on your iFIX SCADA nodes for the Enhanced Failover feature to work properly (the same configuration changes as the non-Stratus nodes).
- Custom applications or scripts that were written to synchronize databases or alarms on previous versions of iFIX will no longer be required with Enhanced Failover enabled. So as not to interfere with the SCADA failover, you should remove these custom applications or scripts from your failover configuration.

The following steps describe how to upgrade your failover system.

▸ To configure your iFIX SCADA nodes after an upgrade, if failover was used in a release prior to iFIX 5.0:

1. On the primary SCADA node, on the Start menu, point to Programs, then Proficy HMI/SCADA - iFIX, and then System Configuration. The System Configuration Utility (SCU) appears.
2. On the Configure menu, click SCADA. The SCADA Configuration dialog box appears.
3. In the Failover area, select the Enable check box if it is not already selected.
4. In the Node area, verify or select the node type: Primary or Secondary.
5. In the SCADA Name field, verify or enter the name of your partner SCADA node.
6. Click the Data Sync Transport button. The Data Sync Transport dialog box appears.
7. From the Description list, select the LAN adapter(s) to use for data synchronization between the

SCADA pair, then select the Enable check box. Make sure that the LAN adapters you will not be using for data synchronization are not enabled.

8. In the Partner's Address field, enter the IP address of the partner node.
9. Use the default settings for the rest of the fields.

   NOTE: *The Bandwidth Limit field in the Data Sync Transport dialog box allows you to enter a value to throttle down or limit the synchronization rate or bandwidth used. It is recommended when using a corporate, non-dedicated or shared network (10/100 or 1GB), that you "throttle" network traffic to limit bandwidth that the data synchronization process will consume.*

10. Click OK.
11. Repeat steps 1-10 on the secondary SCADA node.

Title Bar in iFIX WorkSpace

iFIX 3.0 and later provides a new title bar in the WorkSpace, which reads "Proficy iFIX WorkSpace." If you have any custom applications that use the FindWindow Microsoft API call, you will need to update these applications to reflect the new title bar.

Programs that Run as a Service with iFIX

When you start iFIX as a service, programs in the startup task list also start as services. If you upgrade from a previous version of iFIX, be aware that programs listed in the SCU's Task Configuration dialog box will continue to run as services if iFIX remains running as a service.

However, if you previously started the iFIX OPC A&E Server with this command:

```
iFixOPCAESrv.exe -service
```

The -service option is no longer needed to run the iFIX OPC A&E Server as a service. You should go into the Task Configuration dialog box and remove the -service command from the startup task list.

Be aware that you can only run programs such as the iFIX OPC A&E Server as a service if iFIX is configured to run as a service.

If you want to run the OPC Client driver as a service, iFIX must also run as a service. Likewise, if you want to run iFIX as a service, the OPC Client driver must run as a service. You cannot run one as a service, without the other also running as a service.

Toolbars

If your Proficy iFIX WorkSpace contains additional standard toolbars from other iFIX versions, such as the Proficy Historian toolbar, these toolbars will appear in the iFIX WorkSpace system tree, in the Project Toolbar Files > Toolbars folder. Double-click a toolbar to display it in the WorkSpace.

Standard vs. Classic Window Styles

Because the standard window styles now include larger title bars and menu bars, such as those in Windows XP, scroll bars may appear in iFIX pictures (that you created in earlier versions of Windows) when you open them.

To resolve this issue, it is recommended that you change the Appearance Scheme in the Windows Display Properties dialog box to Windows Classic.

Changing Permissions for PlugAndSolve and User Globals

If you upgrade from iFIX 2.6, you may need to change the security properties of the user.fxg and plugandsolve.fxg files. To change the permissions on these files, you must be logged in as an Administrator. Use the following steps.

To change permissions on a file:

1. Open the File Explorer.
2. Right-click the PlugandSolve.fxg or user.fxg file in your iFIX PIC folder, and select Properties. The Properties dialog box appears.

   NOTE: *If the Security tab does not appear in Windows XP, open Windows Explorer. From the Tools menu, choose Folder Options. The Folder Options dialog box appears. Click the View tab. Clear the* ***Use simple file sharing (Recommended)*** *check box and click OK.*

3. Select the Security tab.
4. Click the Advanced button. The Advanced Security Settings for *file name* dialog box appears, where file name refers to the name of the file you selected in step 2.
5. On the Permissions tab, for the specified user, check the Inherit from parent the permission entries that apply to child objects. Include these with entries explicitly defined here.
6. Repeat steps 1-5 for the other file.

GeneralDataSet Object Replaces the HistoricalDataSet and RealTimeDataSet

In iFIX 5.5, the GeneralDataSet object replaces both the HistoricalDataSet (used by Historical Datalinks and animations, the Enhanced Line and XY Charts, and the HistoricalLineChart Dynamo) and the RealTimeDataSet (used by Enhanced Line and XY Charts) objects. The GeneralDataSet supports both real-time and historical data. Having a single data set for all data types allows for a more efficient way of rendering the data in the iFIX WorkSpace. It also provides the flexibility to configure a tag group without having to specify how the tag group has to be treated, as real-time or historical.

NOTE: *The RealTimeSPCDataset still exists and has not been upgraded in iFIX 5.5.*

When opening pictures from a previous version of iFIX (prior to iFIX 5.5), pictures that contain any older dataset objects are upgraded to use the new GeneralDataSet object. An informational message appears telling you that the file you are opening has been updated to the most recent format and that the original can be found in the backup directory.

Any scripts with the logic to check against the dataset's class name in order to determine the data type will now be replaced with the method IsHistoricalData. Each upgraded line in the script includes a comment that starts with the words: '** Upgraded **'. This comment is provided so that you can easily search and find any upgraded areas in your VBA scripts. For example, an updated line would display like this:

```
'** Upgraded ** If ds.ClassName = "HistoricalDataSet" Then

  If ds.IsHistoricalData = True Then
```

An upgraded dataset still retains its object name in order to keep the scripts compatible in the latest version of iFIX. For instance, a RealTimeDataSet named “XYZ” will still show up as “XYZ” in the system tree in the iFIX WorkSpace, but the object itself will become a GeneralDataSet with the additional properties. This name is still retained even if the data type is changed to a different type (for instance, from real-time to historical).

Be sure to review the functionality of any custom scripts if you previously used the classname property of a HistoricalDataSet or RealTimeDataSet.

Advanced Historian Not Supported

Advanced Historian is not supported in iFIX 2.6 and greater. So, you cannot use Advanced Historian with iFIX. If you have Advanced Historian installed, contact your local iFIX sales representative about upgrading to Proficy Historian.

Proficy Historian for SCADA

Beginning with iFIX 5.0, Proficy Historian was integrated into iFIX. However, using Historian in an integrated manner is entirely optional. To help you decide whether or not to use Historian as an integrated component of iFIX, see Using iFIX with Proficy Historian.

Starting in iFIX 5.5, Proficy Historian for SCADA is included on the iFIX installer. On new installs, you can choose to install Proficy Historian for SCADA. If an existing Proficy Historian install is found when you install iFIX, your install will exit after the iFIX install and Proficy Historian for SCADA will not be installed. Should you want to install Proficy Historian for SCADA, refer to the Manually Installing the Proficy Historian Software section for steps.

Upgrading Pictures

When you open a picture from a previous version of iFIX in the newer version, and save it, your picture is automatically updated to the newest version of iFIX.

NOTE: *Be aware that pictures with Enhanced Charts containing tag groups will display a message on upgrade. However, pictures with Historical datalinks and Historical animations containing tag groups will not.*

Due to the design of the VisiconX objects in iFIX 5.0 and greater, it is recommended that you manually replace your older VisiconX objects with the newer versions (if you are upgrading from a version of iFIX prior to iFIX 5.0).

Compatibility of iFIX Pictures

iFIX supports pictures created, saved, or built in previous versions of iFIX. However, pictures created, saved, or built in the latest version of iFIX are not compatible and cannot be opened in prior versions.

When you open a picture from a previous version of iFIX in the newer version, and save it, your picture is automatically updated to the newest version of iFIX. Make sure you review the following sections, however:

- Resolving iFIX Displays
- Converting Pictures from FIX v7 to iFIX
- Running Pictures Created in an Older Version of iFIX
- Using Code Written for Pictures in iFIX 2.1

Resolving iFIX Displays

When you upgrade your iFIX system, or add or delete tags from your database, it is important that you run resolve on all pictures and schedules. This will ensure that you are getting maximum performance from your iFIX system.

Converting Pictures from FIX 7.x to iFIX

When converting pictures from FIX v7 to iFIX, we recommend that you load the corresponding database in Database Manager before converting a picture. If you do not load the current database, you will need to manually reset each animation. For more information, see the Using the Picture Converter Utility section of the Creating Pictures manual.

Running Pictures Created in an Older Version of iFIX

If you performed your original picture development on an earlier version of iFIX and have not upgraded to iFIX 2.2 or later, you may experience color mapping errors when upgrading iFIX.

To avoid color mapping problems, perform the following steps before saving and resolving any pictures in the latest version of iFIX.

▸ To avoid color mapping problems:

1. Copy and save the tables.lst file from the older version of iFIX.
2. Install the iFIX upgrade or switch to the upgraded machine.
3. Shut down the WorkSpace.
4. Delete the tableconversion.lst file from the iFIX directory (C:\Program Files\Proficy\Proficy iFIX).
5. Copy the original tables.lst file to the iFIX directory.
6. Restart the WorkSpace.

Using Code Written for Pictures in iFIX 2.1

Code written to position or size a picture using the ActiveWindow object in iFIX 2.1 may produce different results in an upgraded iFIX system using multiple monitors with autoscale disabled. The incorrect positioning and sizing occurs because the ActiveWindow object in 2.1 does not account for the disabled autoscale in later versions of iFIX.

You can access the ActiveWindow object directly from the documents collection or by calling the OpenPicture subroutine.

To correct the sizing and positioning, multiply the parameters in the 2.1 script by the number of monitors.

For example:

In iFIX 2.1, you opened a picture on the second monitor of a dual monitor system by issuing the following command:

```
openpicture "picture.grf",,0,50
```

In iFIX 2.6 and later, open a picture on the second monitor of a dual monitor system by issuing the following command:

```
openpicture "picture.grf",,0,100
```

Database Dynamos

Database Dynamos, also known as loadable blocks, will require updates to work with the latest version of iFIX. If you have old Database Dynamos on your system, the iFIX install program will detect them, and generate a warning message. This includes any Database Dynamos that you downloaded from the Support web site, or installed from the Allen-Bradley Productivity Pack CD before you installed iFIX 3.x.

The GE Intelligent Platforms web site contains updated versions of the database dynamos supplied by GE Intelligent Platforms. To obtain updated version of other dynamos, contact the vendor of that dynamo. To obtain the current version of the Database Dynamo Toolkit, contact your local iFIX sales representative.

NOTE: *When upgrading an iFIX SCADA node with loadable blocks, always make sure that the block slot number prior to the upgrade matches the block slot number after the upgrade. Slots are saved inside the FIX.INI (in the [Scada] section) . If the block slot numbers do not match after the upgrade, iFIX will be unable to load these blocks, and eliminate them from the database. In addition, you may receive a warning message stating that the there is a block configuration mismatch.*

Historical Datalinks

Beginning with iFIX 5.1, the configuration requirements for historical datalinks changed. To upgrade your existing historical datalinks, for each picture which contains them, open the picture and save it. If you do not make any changes on the Historical Datalinks dialog box, the historical datalink, by default will use CurrentValue for its Historical Mode.

iFIX Dynamo Sets

When you upgrade iFIX, or install a Software Improvement Module (SIM) that updates any iFIX Dynamo sets, the newer Dynamo sets overwrite the older ones. To avoid losing any modifications made to the older files, you can rename them or move them to a folder located outside the iFIX picture path. Dynamo set files have an .fds extension and are located in the C:\Program Files\Proficy\Proficy iFIX\PIC folder, by default.

Be aware that when you upgrade iFIX, the Dynamos in pre-built Dynamo sets and the Dynamos created before iFIX 4.5 are not considered *Dynamo objects*. This means you cannot use the Quick Dynamo Updater, the Dynamo Updater Wizard, and the Cross Reference Tool (available in iFIX 4.5 and greater) to update instances of these Dynamos within existing pictures. Only Dynamo objects created in the newer version of iFIX can be updated with these tools.

Pre-built Dynamos include the following Dynamo sets:

- Historical.fds
- Miscellaneous.fds
- Motors.fds
- Pipes.fds
- PipesAnim.fds
- Pumps.fds
- PumpsAnim.fds
- Tanks.fds
- TanksAnim1.fds
- TanksAnim2.fds
- Valves.fds
- ValvesAnim.fds

Deleting Temp Directory Contents if iFIX Installation Fails

When upgrading to iFIX, in some cases the installation will run too quickly, taking only a few seconds, or hang and not complete the process. In both cases, the product will not successfully install.

If this happens, delete the contents of the Temp directory and run the installation again.

Alarm Summary Objects and Picture Translation

For each picture created in a previous release that uses the picture translation feature and includes an Alarm Summary object(s), you must export the language file again after you upgrade. This step updates your language files to include the Alarm Summary object information.

Next, using a text editor, you must provide translations for each of these new fields in the exported language (.csv) file(s). This step is required because the iFIX language translation file originally did not include the Alarm Summary object.

NOTES:

- *iFIX supports translation of the Alarm Summary object information through the picture object, or through the Alarm Summary object. You may also want to create new pictures which take advantage of the SwitchLanguage Method on the Alarm Summary object itself. For more information on how to use this feature, refer to the SwitchLanguage Method Example in the iFIX Automation Reference.*

- *In iFIX, you can also change the font of the Column Headers and the Status Bar in the Alarm Summary object for translation display purposes. This Font changing feature can be accessed from the General tab of the Alarm Summary object in configure mode. You may want to update your pictures to use this feature, as well. For more information on how to use this feature, refer to the Configuring Fonts for the Column Headings and Status Bar in the Creating Pictures electronic book.*

▸ To export a single language file:

1. In the WorkSpace configuration mode, open the picture you want to export a language file for.
2. In Classic view, on the WorkSpace menu, click User Preferences.

   -Or-

   In Ribbon view, on the Home tab, in the WorkSpace group, click Settings, and then click User Preferences.

3. Click the Picture Preferences tab and make sure the Translate Picture On Open check box is cleared. If it is selected, the LanguageDesired and TranslateOnOpen properties in the Properties window cannot be changed.
4. Click OK to close the User Preferences dialog box.
5. Right-click in the picture and choose Property Window.
6. From the LanguageDesired list, select the appropriate language.
7. From the TranslateOnOpen list, select Yes.

8. On the Translation toolbar, click the Export language file button. A message appears letting you know the language file was successfully exported.
9. You can now open the language file in a text editor and translate the text strings for the picture.

To export multiple language files:

1. In the iFIX WorkSpace, on the Translation toolbar, click the Export multiple language files button. The Language File Exporter dialog box appears.
2. In the Select pictures list, select the check box for each picture you want to export a language file for.
3. If applicable, select the Show Tag Status pictures check box to display and select tag status pictures in the Select pictures list.
4. If applicable, select the Always overwrite existing export files check box. If you are exporting a language file for a picture that already has a language file for the selected language, the existing language file will be automatically overwritten. If you clear this check box, you will be prompted to replace the existing language file. Click Yes to replace it and No to keep it.
5. From the Select language list, choose the language that you want to provide translations for.
6. Click Export. A separate language file is created for each picture you selected.
7. You can now open each language file in a text editor and translate the text strings for the pictures.

Upgrading from FIX 7.x

If you want to upgrade from FIX 7.x to iFIX, but continue to use your FIX 7.x pictures, you must install iFIX with the FIX Desktop option. FIX Desktop is provided as a custom option in your iFIX product install. To install FIX Desktop option you need to browse the folders on the product install DVD. The FIX Desktop installer is included in the ..\Setup\Proficy\Legacy subfolder.

After you upgrade to iFIX with FIX Desktop, you can run FIX Desktop Draw, View, and HTD applications alongside the Proficy iFIX WorkSpace. All applications use the iFIX security, database, and system configuration information.

This chapter describes how to upgrade the FIX 7.x product to iFIX with FIX Deskttop. After you upgrade, you can continue to use your FIX32 pictures in FIX Desktop Draw and View applications, or you can migrate and create new pictures in the Proficy iFIX WorkSpace.

Before you upgrade, you need to follow the steps outlined in the Preparing for the Upgrade to iFIX with FIX Desktop section. The actual upgrade steps are outlined in the Overview of Steps to Upgrade from FIX 7.x section.

Preparing for the Upgrade to iFIX with FIX Desktop

The following sections describe the steps you need to take to prepare your computer for upgrading to iFIX with FIX Desktop. These sections are presented in the order that you should proceed with each task. These tasks are also outlined in the list below.

To prepare for the upgrade:

1. Convert recipes to the required format by Preparing the Recipe Files for the Upgrade.
2. Export I/O driver information by Preparing the I/O Drivers for the Upgrade.
3. Record the enabled environmental protection options by Checking the Environmental Protection Settings.
4. Be sure to save all required files by Backing Up FIX Files.
5. Compile a list of user accounts by Exporting a Report of the Security Configuration.
6. Edit the user accounts in the report file by Adding Passwords to the .RPT File.
7. Finish by Generating a System Configuration Report.

Preparing the Recipe Files for the Upgrade

If any of your current FIX32 projects uses recipes, you will need to convert these recipes to .rcx (Master text) and .rcy (Control text) files before you upgrade to iFIX with FIX Desktop. These recipes are located in the FIX32 RCM and RCC folders. This step is necessary so that you can import your recipes after installing iFIX with FIX Desktop.

To convert your recipes to .rcx and .rcy files:

1. Start FIX32.
2. If security is enabled, log in using a user account with Administrator rights.
3. Start the FIX32 Recipe Manager, RCP.EXE.
4. Save each master recipe as a .rcx file:
    a. Open the master recipe (.RCM file).
    b. On the File menu, click Save As. The Recipe Mod Log dialog box appears.
    c. Click Save As. The recipe Save As dialog box appears.
    d. From the Save File As Type drop-down list, select Master text (*.rcx).
    e. Confirm that the location is the RCM folder and the file name is the same as the original file.
    f. Click OK.
5. Save each control recipe as a .rcy file:
    a. Open the control recipe (.rcc file).
    b. On the File menu, click Save As. The Recipe Mod Log dialog box appears.
    c. Click Save As. The recipe Save As dialog box appears.
    d. From the Save File As Type drop-down list, select Control text (*.rcy).
    e. Confirm that the location is the RCC folder and file name is the same as the original file.
    f. Click OK.
6. Verify that you saved all recipes by inspecting the FIX32\RCC and FIX32\RCM folders.

Preparing the I/O Drivers for the Upgrade

Before you upgrade to iFIX with FIX Desktop, it is recommended that you use the driver configuration program to export the driver information into .CSV files. By default, these files are saved to the FIX32/PDB folder. You use these .CSV files later to import the driver information into the upgraded system.

Later in the install process, after importing the driver files, you can verify the driver migration and convert the

process database for use with iFIX and FIX Desktop.

To export the driver configuration:

1. Start the current installation of FIX (if it is not already running).
2. If security is enabled, log in using a user account with Administrator rights.
3. Start the System Configuration Utility (SCU).
4. On the Configure menu, click SCADA. The SCADA Configuration dialog box appears.
5. Select an installed driver (other than SIM), and click the Configure button. The Driver Configurator program starts.
6. Select the first channel, CHANNEL1, in the browser on the left side of the window.
7. On the File menu, click Save As. The Save As dialog box appears.
8. Leave the default location of FIX32\PDB, and enter a name for the file in the File Name field.
9. From the Save as Type drop-down list, select Text Files (*.CSV).
10. Click Save.
11. Repeat steps 6-10 for each channel of the driver that is currently installed. Note the file names and their location for later use.
12. Repeat steps 5-11 for each I/O driver installed on your system.
13. Exit the SCU.

Checking the Environmental Protection Settings

Before the upgrade to iFIX with FIX Desktop, you should open the Environment Protection dialog in the Draw application and record these settings. After the upgrade, you cannot access this dialog box from Draw. Instead, you configure all environmental protection options in the Proficy iFIX WorkSpace.

To record your current environment protection settings:

1. Start FIX.
2. Open the Draw application.
3. On the Edit menu, click Environment. The Environment Protection dialog box appears.
4. Inspect and record the enabled options.

Backing Up FIX Files

After you create the support files for your recipe and I/O driver upgrades, you can proceed to back up your FIX 7.x files. Create a new folder on your computer, separate from the FIX 7.x (FIX32) folder, for the files you want to save.

After you back up the FIX files, you may also want to copy this new folder to another location, such as a network drive or a removable media, as a safeguard until the migration is complete.

The following table lists the files and folders that you must back up.

Files or Folder to Copy	Location	Description of FIX32 Component
*.PDB, *.CSV, *.GDB, all driver configuration files	FIX32\PDB	Process database and driver configuration files.
*.ODF	FIX32\PIC	Picture files.
*.ODT	FIX32\PIC	Template files for pictures.
*.TGE	FIX32\PIC	Tag Group Editor files.
*.KMX	FIX32\PIC	Key Macro Editor files.
*.LYT	FIX32\PIC	Layout files.
*.SBL	FIX32\PIC	Custom Dynamos.
*.RCX	FIX32\RCM	Master recipe files, in text format. **NOTE:** These files do not appear unless you followed the steps in the Preparing the Recipe Files for the Upgrade section.

Files or Folder to Copy	Location	Description of FIX32 Component
*.RCY	FIX32\RCC	Control recipe files, in text format. **NOTE:** These files do not appear unless you followed the steps in the Preparing the Recipe Files for the Upgrade section.
Draw.ini, View.ini, *.RPT	FIX32\LOCAL	Initialization settings for the Draw and View applications, and report files.
Entire HTRDATA folder	FIX32\HTRDATA	Collected historical data.
Entire HTR folder	FIX32\HTR	Historical collection preferences.
Entire ALM folder	FIX32\ALM	Alarm file and event log.
Entire APP folder	FIX32\APP	Custom data and configuration files for your iFIX applications.

To back up the required files:

1. Create a new folder on your computer, separate from the FIX32 folder, for the files you want to save.
2. Copy the entire PDB folder into this new folder. The PDB folder includes the process database and driver configuration files (*.PDB, *.CSV, *.GDB, all driver configuration files).
3. Copy the entire PIC folder, which includes all displays, display templates, tag groups, key macros, layouts, and custom Dynamos (*.ODF, *.ODT, *.ODT, *.TGE, *.KMX, *.LYT, and *.SBL files).
4. Copy the converted master recipe files (*.RCX) in the RCM folder.
5. Copy the converted control recipe files (*.RCY) in the RCC folder.
6. Copy the initialization settings for the Draw and View applications and report files (Draw.ini, View.ini, *.RPT) from the LOCAL folder.
7. Copy the entire HTRDATA folder, which includes all collected historical data.
8. Copy the entire HTR folder, which includes your historical collection preferences.
9. Copy the entire ALM folder, which includes all alarm files and event logs.

10. Copy the entire APP folder, which includes any custom data and configuration files for your iFIX applications.
11. After you copy all of these files, you may want to back up these files to another location, such as a network drive or a removable media, as a safeguard until the migration is complete.

Exporting a Report of the Security Configuration

Before you upgrade to iFIX with FIX Desktop, you need to export a report from the FIX Security Configuration application. This report includes a list of iFIX users along with the application features configured for each user in your FIX applications. Save this file along with the other FIX files and folders that you backed up.

IMPORTANT: *Passwords are not exported with the security configuration report; you must re-enter the passwords manually. See the Adding Passwords to the .RPT File section for details. This policy is for security purposes.*

After you install iFIX and FIX Desktop (in the same language as the original install), you can import this report file into your new security configuration to recreate the user accounts on the upgraded system. You can also use this printed report as a cross reference when you reassign the new application features to each user.

To export a list of user accounts:

1. Start the current installation of FIX (if it is not already running).
2. If security is enabled, log in using a user account with Administrator rights.
3. Start the System Configuration Utility (SCU).
4. On the Configure menu, click Security to enter the Security Configuration.
5. On the File menu, click Export. The Select File dialog box appears.
6. Browse to the folder that you want to save the file to. By default, this folder is the FIX32\Local folder. Most likely you will want to save this file to the location where you backed up the other FIX files.
7. Use the default name for the .RPT file, which is *Security*.RPT.
8. Click Save.
9. Open this report in a text editor such as Notepad or Wordpad and print a copy.

Adding Passwords to the .RPT File

The report file that you export from the Security Configuration application does not include user passwords. This is done to protect your system.

If you later try to import this file into the Security Configuration application without the passwords, none of the

iFIX user accounts will require passwords. In this case, you would need to re-enter each password manually. You can avoid this step entirely by editing each account in the report file from a text editor before the migration.

To add passwords to your exported file with the security configuration:

1. Open the *Security*.RPT file in a text editor such as Notepad or WordPad. By default this file is located in the Local folder, on the FIX32 node.
2. Search the file for the first instance of the word *User:* in the report. For example:

   ```
   User: GUEST

   Login-name: GUEST

   Timeout: 00:00:00

   Feature: View
   ```

3. Insert the text *Password:* after the user's login name.
4. Type the user's password after the colon. An example of what this might look like is as follows:

   ```
   User: GUEST

   Login-name: GUEST

   Password: GUEST

   Timeout: 00:00:00

   Feature: View
   ```

5. Scroll down through the report and repeat steps 3 and 4 for each user in the report.

Generating a System Configuration Report

Before you migrate to iFIX with FIX Desktop, it's a good idea to create a system configuration report. This report includes information that you may need later when you are configuring your SCU. It is also helpful if you want to verify your system after the migration. This report includes:

- General node configuration information, such as the node and setup file name, as well as SCADA, network, NLS, and security options.
- System path locations for base, local, language, database, pictures, and so on.
- SCADA configuration such as the name and number of I/O drivers.
- Alarm configuration information such as default message format, application message routing, remote

alarm areas, alarm network service, alarm summary, and alarm history service settings.

- List of startup tasks.
- SQL configuration.
- Auto Alarm Manager configuration to send and receive alarms.

This report contains valuable reference information on your current FIX system before the upgrade.

Steps to Generate a System Configuration Report

To generate a system configuration report:

1. Start the current installation of FIX32 (if it is not already running).
2. If security is enabled, log in using a user account with Administrator rights.
3. Start the System Configuration Utility (SCU).
4. On the File menu, click Report. The Select Report Name dialog box appears.
5. In the File Name field, leave the default name. The default name is the node name.
6. Click Save. A report named *NodeName*.RPT is saved to the Local folder. A message appears when the save is complete.

   NOTE: *NodeName is the name from step 5.*

7. Click OK to continue.

Overview of Steps to Upgrade from FIX 7.x

After you complete the steps described in the Preparing for the Upgrade to iFIX with FIX Desktop section, you can proceed to the actual product upgrade.

To upgrade from FIX 7.x:

1. Complete the steps for Installing the iFIX Software.
2. Follow the steps for Installing the FIX Desktop Software.
3. Update the Database Dynamos.
4. Install the Newest Drivers and iFIX Product SIMs.
5. Copy the Backed Up Files into the New Product Folder.

6. Import the FIX I/O Driver Configuration Information.
7. Verify the I/O Driver and Database Migration.
8. Import the Recipes Files.
9. Import the Security Configuration.
10. Reconfigure the Application Features and Passwords for Each User.
11. Redefine SCADA Failover Settings.
12. Enable Environmental Protection.

Update Database Dynamos

To use FIX 7.x Database Dynamos in iFIX with FIX Desktop, you must recompile them with the iFIX Database Dynamo Toolkit. Follow the steps outlined in the iFIX Database Dynamo Toolkit and the Database Converter will update your Database Dynamos. The Database Converter runs whenever iFIX is started.

For information on the Database Dynamo toolkit, contact GE Intelligent Platforms.

Install the Newest Drivers and iFIX Product SIMs

You must install the most current drivers before you migrate the Process Database (PDB) from FIX32 to iFIX with FIX Desktop. This is necessary so that your FIX32 applications can migrate properly to iFIX with FIX Desktop.

You can install the newest drivers from the most current Driver CD, or by obtaining the driver file from the Proficy GlobalCare Support web site, http://www.ge-ip.com/support.

To install the driver, follow the instructions that came with your driver CD, or with your download. If you install a driver from the web, the process generally entails extracting files from a .EXE and running a simple install program or manually copying files. Refer to the driver documentation for information on the install process.

After obtaining and installing the latest drivers, it is recommended that you check for the latest patches for the iFIX product. Obtain all applicable iFIX SIMs and add-ons from the Proficy GlobalCare Support web site, http://www.ge-ip.com/support. Install these SIMs on top of the current iFIX installation.

▸ To install the newest drivers and iFIX product SIMs:

IMPORTANT: *You must install the most current drivers before you migrate the Process Database (PDB) files*

from FIX32 to iFIX. This step is necessary so that your FIX32 applications can migrate properly to iFIX.

1. Obtain the latest the most current Driver CD or the driver update from the GlobalCare Support web site, http://www.ge-ip.com/support.
2. Follow the instructions that came with your driver CD, or the information included with the driver download.
3. Check for the latest patches for the iFIX product. Obtain all applicable iFIX SIMs and add-ons from the GlobalCare Support web site, http://www.ge-ip.com/support.
4. Install these SIMs on top of the installed iFIX product.
5. Do not start iFIX.

Copy the Backed Up Files into the New Product Folder

After iFIX with FIX Desktop is installed, along with the drivers, appropriate SIMs, and USB key, you can copy your previous FIX32 files into the new iFIX with FIX Desktop install location. As you remember, you backed up these files before beginning the iFIX with FIX Desktop installation. The default iFIX install folder is: C:\Program Files\Proficy\Proficy iFIX.

The following table lists the files to copy from your backup folder, and the location to copy them to (assuming you used the default iFIX directory).

Files to Copy	**Location to Copy in iFIX Folder**
*.PDB, *.CSV, *.GDB all driver configuration files	PDB
*.ODF	PIC
*.ODT	PIC
*.TGE	PIC
*.KMX	PIC
*.LYT	PIC

Files to Copy	Location to Copy in iFIX Folder
*.SBL	PIC
*.RCX	RCM
*.RCY	RCY
Draw.ini, View.ini, *.RPT	LOCAL
HTRDATA/*.*	HTRDATA
HTR/*.*	HTR
ALM/*.*	ALM
APP/*.*	APP

To copy the backed up files into the appropriate Proficy iFIX product folders:

1. Copy the *.PDB, *.CSV, and *.GDB files from the FIX32 PDB folder into the iFIX PDB folder.

   NOTE: *If you installed iFIX to the default location, the iFIX folders are located in this path: C:\Program Files\Proficy\Proficy iFIX.*

2. Copy the contents of the FIX32 PIC folder into the iFIX PIC folder.
3. Copy the *.RCX files into the iFIX RCM folder.
4. Copy the *.RCY files into the iFIX RCC folder.
5. Copy the Draw.ini, View.ini, *.RPT files for FI32X into the iFIX Local folder.
6. Copy the contents of the FIX32 HTRDATA folder into the iFIX HTRDATA folder.
7. Copy the contents of the FIX32 HTR folder into the iFIX HTR folder.
8. Copy the contents of the FIX32 ALM folder into the iFIX ALM folder.
9. Copy the contents of the FIX32 APP folder into the iFIX APP folder.

Import the FIX I/O Driver Configuration Information

After you copy the backed up FIX files into your new iFIX with FIX Desktop folder, you are ready to import the I/O driver configuration information.

To import the I/O driver configuration information:

1. Start the iFIX SCU, by clicking the Start button, pointing to Programs, Proficy HMI SCADA - iFIX, and then System Configuration.
2. Verify that the Node name that appears on the main screen is correct. Refer to the NodeName.RPT report described in the Generating a System Configuration Report section if you are unsure of the name.
3. Double-click the Database Name to enter the database name you want to use. The Database Definition dialog box appears. Ensure it is the same name as the previous project.
4. Click OK. A prompt appears stating that the database does not exist.
5. Select Yes, and use the database anyway.
6. On the Configure menu, click SCADA. The SCADA Configuration dialog box appears.
7. Verify that the required drivers appear in the Configured I/O Drivers list. If required, add the SIM and any other required driver to the Configured I/O Drivers list.
8. Click OK, and then Yes when prompted.
9. On the File menu, click Save.
10. Close the SCU.
11. Click Start and point to Programs, Proficy HMI SCADA - iFIX, and then iFIX to launch the iFIX Startup dialog box.
12. Make sure the local node name is correct, and click the button in this dialog box to start iFIX.
13. When iFIX is running, start the SCU again.
14. On the Configure menu, click SCADA. The SCADA Configuration dialog box appears.
15. Verify each driver configuration is correct by selecting the driver and then clicking the Configure button. The Driver Configurator opens.

    If the driver configuration is correct, you can close the Driver Configurator and proceed to step 24.

    If you need to make changes, you can make the necessary changes, save the file, and proceed to step 24. Otherwise, import the driver configuration by following steps 16-22.

16. Select the first channel, CHANNEL1, in the browser on the left side of the window.

17. On the File menu, click Open. The Open dialog box appears.
18. From the Save as Type drop-down list, select Text Files (*.CSV).
19. Select the .CSV file for the channel.
20. Click Open.
21. Repeat steps 16-20 for each channel of the driver that is currently displayed.
22. Repeat steps 15-21 for each I/O driver installed on your system.
23. When you finish these tasks for all drivers, on the File menu, click Save and exit the Driver Configurator.
24. Save and Exit the SCU.

Verify the I/O Driver and Database Migration

After configuring the SCU, complete the following procedure to verify the migration of the I/O drivers and to convert the Process Database.

To verify the migration:

1. Start iFIX.
2. Start Mission Control from the Proficy iFIX WorkSpace. You can find the button to launch Mission Control in the WorkSpace tree.
3. Examine the information on the I/O Control tab. Ensure that data is being polled. If data is present, advance to Step 6.
4. If there is no data present, ensure that the driver is loaded and is running. Exit Mission Control and select System Configuration to start the SCU.
5. On the Configure menu, click SCADA. The SCADA Configuration dialog box appears.
6. Select the I/O driver and verify that the Poll Records are present. If they are not present, repeat the steps in the Import the FIX I/O Driver Configuration Information section.
7. Maximize the Proficy iFIX WorkSpace and then:
    a. Start Database Manager from the WorkSpace System Tree.
    b. Verify that the I/O addresses for your data blocks are correct.
8. Save and exit Database Manager.

Errors that occur during the database conversion are written to the error log file (dbcvt.err). You can open this file in any text editor. Use this log file to identify the individual tags causing the problems. Consult the online help or contact GE Intelligent Platforms for more details on how to troubleshoot

database conversion errors.

Import the Recipes Files

After converting and successfully running the I/O Drivers and Process Database, you can import the recipes that you previously saved as .rcx and .rcy files.

To import recipe files:

1. From the Proficy iFIX WorkSpace, select the FIX Recipes folder in the system tree.
2. Double-click the New Recipe icon. The Recipe Development utility appears.
3. Open each .rcx file in the iFIX RCM folder and save each file as a .rcm file.
4. Open each .rcy file in the iFIX RCC folder and save each file as a .rcc file.
5. When you are finished, exit the Recipe Development utility.

Import the Security Configuration

When you import the security configuration file that you created before the install, all your FIX 32 users are re-added to the iFIX with FIX Desktop software. Later you will need to re-enter passwords for these users and redefine the application features assigned to each user, since the iFIX with FIX Desktop software includes new and reassigned application features. However, before you can do that, you need to import the list of users from the security configuration.

To import the list of users from the security configuration:

1. Start the current installation of FIX (if it is not already running).
2. From the Proficy HMI SCADA - iFIX program group, start the System Configuration application. The SCU opens.
3. On the Configure menu, click Security. The Security Configuration application appears.
4. On the File menu, click Import. The Select File dialog box appears.
5. Browse to the folder that you copied the original .RPT file to. By default, this folder is the C:\Program Files\Proficy\Proficy iFIX\Local folder.
6. Select the file and click Open. A message box appears warning you that the imported user accounts will not contain passwords.

   IMPORTANT: *Be aware that you cannot import a security file exported from another language.*

7. Click Yes to continue. Another message box appears requesting that you replace or add this file to the existing configuration.
8. Click Replace.

   IMPORTANT: *Do not shut down the SCU before moving on to the next set of steps. If you did not add passwords to the user accounts before you migrated, as described in the Adding Passwords to the .RPT File section, you could possibly lock yourself out, if security is enabled.*

9. Continue by following the steps in the Reconfigure the Application Features and Passwords for Each User section.

Reconfigure the Application Features and Passwords for Each User

After you import the security configuration (.RPT) file, you can proceed to reconfigure the features available for each user and reassign new passwords, if you did not already do so.

Use the Security Configuration program to open each group profile and user profile, assign application features, and create a new password (if a password is required). Use the printout that you created in the Exporting a Report of the Security Configuration as a reference when reassigning the application features to users on the upgraded system. This printout lists the original application features available for each user.

Refer to the following sections when comparing this printed list of features with the features that appear in the Application Features Selection dialog box.

- Identical Application Features in FIX32 and iFIX with FIX Desktop
- FIX32 Application Feature Names That Are Different After the Upgrade
- FIX32 Application Features No Longer Available After the Upgrade
- New Application Features Available for iFIX Users

To assign the application features and a password to each user:

NOTE: *The SCU should still be open from the previous set of steps in the Import the Security Configuration section.*

1. On the Configure menu, click Security. The Security Configuration application appears.
2. On the Edit menu, click User Accounts.
3. Select a user and click Modify. The User Profile dialog box appears.
4. In the Password field, enter a new password if you want to assign a password.
5. Click the Modify button beneath the Application feature list (the list on the right-side of the window).

The Application Feature selection dialog box appears.

6. Add the required features. Click Add All if you want to allow this user to use all application features.

   See the sections that follow for information on the names used with each feature and the new features available.

7. Click OK.
8. Click OK to exit the User Profile dialog box.
9. Repeat steps 3-8 for each user listed in the User Accounts dialog box.
10. Click OK to exit the User Accounts dialog box.
11. On the Edit menu, click Group Accounts. The Group Accounts dialog box appears.
12. Select a group and click Modify. The Group Profile dialog box appears.
13. In the Application Features area, click Modify. The Application Feature selection dialog box appears.
14. Add the required features. Click Add All if you want to allow this group to use all application features.
15. Click OK.
16. Click OK to exit the Group Profile dialog box.
17. Repeat steps 12-16 for each group listed in the Group Accounts dialog box.
18. On the File menu, click Save to save the security configuration.
19. On the File menu in the Security Configuration program, click Exit to return to the SCU.
20. Save and exit the SCU.

Identical Application Features in FIX32 and iFIX with FIX Desktop

After you import your security configuration, the following application features are automatically imported for each user. You do not need to assign these features again after the upgrade since the same names are used for FIX32 and iFIX with FIX Desktop:

- Background Task Exit
- Database Reload
- Database Save
- Historical Trend Assign
- Historical Trend Collection
- Historical Trend Export
- Recipe Load

- Recipe Save
- Security Configuration
- System Configuration
- System User Login
- System User Logout
- Tag Group Editor

NOTE: *While the Tag Group Editor applications may be different executables for Draw and the Proficy iFIX WorkSpace, they both use the same application feature.*

FIX32 Application Feature Names That Are Different After the Upgrade

After you upgrade to iFIX with FIX Desktop, you will notice that some of the FIX32 features correspond to different names in iFIX with FIX Desktop. These features do not automatically appear in the user's application feature list. You need to add these again.

For instance, to allow a user to access Draw, you need to add the WorkSpace Configure feature to the user's application feature list. By doing this, the user has the same access to both Draw and the Proficy iFIX WorkSpace in configure mode.

Similarly, to allow access to the View application, you need to add the WorkSpace Runtime feature to the user's application feature list. By doing this, the user has access to both View and the Proficy iFIX WorkSpace in run mode.

The application feature names are different because they take into account changes to support the iFIX system. As another example, since the FIX32 Database Builder is replaced with the iFIX Database Manager, you need to add the Database Manager to the user's feature list since the supported application actually changed with the upgrade.

When re-assigning these features for each user, use the following table to locate the FIX32 feature name and determine the corresponding name in iFIX with FIX Desktop.

Feature Name for FIX32	**Feature Name for iFIX with FIX Desktop**
Database Builder, Database Create	Database Manager
Draw	WorkSpace Configure

Feature Name for FIX32	**Feature Name for iFIX with FIX Desktop**
View	WorkSpace Runtime
Key Macro Editor	Fix32 - Key Macro Editor
Operating System Window	Fix32 - Operating System Window
FIX - System Shutdown	iFIX - System Shutdown
Alarm Summary Display	Fix32 - Alarm Summary Display
Historical Trend Display	Fix32 - Historical Trend Display
Run a Task from View	Fix32 - Run a Task from View
Historical Display Configuration	Fix32 - Historical Display Configuration
Exit from View	WorkSpace Runtime Exit
Database Block Add/Delete	Database Block Add-Delete
GUI Recipe Builder Operations Window	Recipe Builder Operations Window
GUI Recipe Builder Development Window	Recipe Builder Development Window
GUI Recipe Save	Recipe Save from Recipe Builder
GUI Recipe Download	Recipe Download from Recipe Builder
GUI Recipe Upload	Recipe Upload from Recipe Builder
GUI Recipe Text Output	Recipe Text Output from Recipe Builder

Feature Name for FIX32	Feature Name for iFIX with FIX Desktop
GUI TASK Switching	Enable Task Switching
GUI System Reboot	Enable Ctrl-Alt-Del
Historical Trend Display View Only	Fix32 - Historical Trend Display View Only
CDA Feature 1 - 54	EDA Feature 1 - 54

FIX32 Application Features No Longer Available After the Upgrade

In iFIX with FIX Desktop, it is no longer applicable to include security for these features, many of which are FIX BOS related or discontinued:

- All features that begin with the word: Batch
- Data Transfer Utility
- Dial Manager for Modem Support
- Ingredient Manager
- Inventory Manager
- Procedure Monitor
- Procedure Monitor - Hold/Resume Control
- Procedure Monitor - Modify Parameters
- Procedure Monitor - Run/Skip Control
- Procedure Monitor - Stop Procedure
- Quality Test Manager
- Recipe Handler
- Recipe Manager
- Recipe Manager - Authorize
- Recipe Manager - Remove
- Report Creator

- Report Generator
- Report Manager
- Scheduler
- Scheduler Configuration

New Application Features Available for iFIX Users

By upgrading to iFIX with FIX Desktop, you also obtain some new features that you can assign to your iFIX users. The features that you can choose from include:

- Application Validator - Creation of Baselines
- Application Validator - Run-time Access
- Change Management
- Electronic Signature - Bypass
- Electronic Signature - Perform By
- Electronic Signature - Verify By
- GE Intelligent Platforms OEM Reserved 1-12
- Manual Failover
- Project Backup-Restore
- Recipe Text Output from Recipe Builder
- Runtime Visual Basic Editor Access
- Security Synchronizer
- Startup Profile Manager
- VisiconX Writes
- A group of Proficy Batch Execution product features available if you have this product installed (each feature starts with the word: Batch Execution)

For more detailed information on using these features with your iFIX pictures, refer to the iFIX Electronic Books.

NOTE: *iFIX does not include a separate Key Macro Editor application feature. For iFIX, the Key Macro Editor (FDKeyMacros.exe) does not run outside of the Proficy iFIX WorkSpace. So, security for this feature is set at the WorkSpace-level by allowing access to the WorkSpace Configure feature. For FIX32, the Key Macro Editor (KME.exe) can run alone without Draw running. This is why the Key Macro Editor appears as a*

separate entry for FIX32 for use with FIX Desktop.

Redefine SCADA Failover Settings

If your FIX32 applications used the failover feature prior to the iFIX 5.0 with FIX Desktop upgrade, you need to set up failover again. Be aware that, if you want to use failover, all nodes (primary, secondary, and view nodes) must be upgraded to iFIX with FIX Desktop. FIX32 failover is incompatible with iFIX.

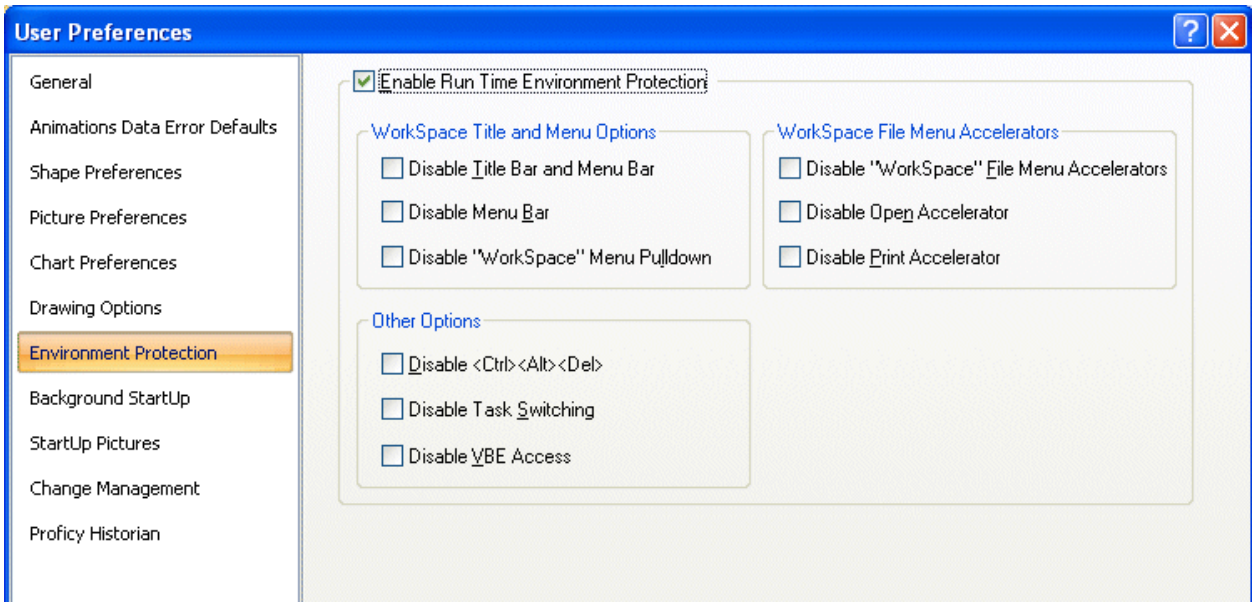
One of the biggest changes required for iFIX failover is that you include a logical node name in your configuration. Failover in iFIX follows a different paradigm. In iFIX with FIX Desktop, the applications on the iClient communicate to the logical node name, and iFIX substitutes the physical node name at run time based on which SCADA server is available. The combination of the logical node name, and physical primary and secondary SCADA server names, is referred to as the primary and secondary pair. You configure the primary and secondary pair in the SCU of the iClient and of each SCADA server.

For detailed instructions on configuring Enhanced Failover in iFIX, refer to the Enhanced Failover e-book in the iFIX Electronic Books.

For detailed instructions on configuring LAN Redundancy in iFIX, refer to the LAN Redundancy e-book in the iFIX Electronic Books.

Enable Environmental Protection

If your FIX applications used the environment protection feature prior to the iFIX with FIX Desktop upgrade, you need to enable it again. To enable this feature for iFIX and FIX Desktop, use the Environment Protection tab of the User Preferences dialog box of the Proficy iFIX WorkSpace, as shown in the following figure.



Environment Protection Options in the Proficy iFIX WorkSpace

From this dialog box, you can enable the options that your applications require. When re-entering these settings, be sure to refer back to the settings that you recorded in the Checking the Environmental Protection Settings section, when you prepared for the iFIX with FIX Desktop upgrade.

Important Note About Using Environment Protection

When you use environmental protection for iFIX with FIX Desktop, be aware that some limitations apply to these options when View is running and the Proficy iFIX WorkSpace is in run mode:

- Disable <Ctrl><Alt><Del>
- Disable Task Switching

If you exit the WorkSpace or View, either by shutting down one application or by switching the WorkSpace to configure mode while View is still running, these environmental protection settings no longer apply to the application still running.

Understanding Environment Protection in iFIX

When you upgrade to iFIX with FIX desktop, there are environmental protection settings that apply to both iFIX and View. There is also a FIX32 environmental protection setting that is unavailable after the upgrade.

However, with the upgrade, there are also new settings now available in the Proficy iFIX WorkSpace. The sections that follow describe these changes.

Settings that Apply to Both the Proficy iFIX WorkSpace and View

From the Environment Protection tab of the User Preferences dialog box, the following settings apply to both View and WorkSpace in run mode:

- Disable Title Bar and Menu Bar
- Disable Menu Bar
- Disable <Ctrl><Alt><Del>
- Disable Task Switching

FIX32 Setting Still Available After the Upgrade

The only environmental protection setting that does not appear in the Environment Protection tab of the User Preferences dialog box is as follows:

Disable Pop-up Menu

This setting is still available for FIX Desktop View, however, you must enable this setting through the FixUserPreferences.INI file.

New Settings for the Proficy iFIX WorkSpace

The remaining environmental protection options are new for the Proficy iFIX WorkSpace:

- Disable "WorkSpace" Menu Pulldown
- Disable VBE Access
- Disable "WorkSpace" File Menu Accelerators
- Disable Open Accelerator
- Disable Print Accelerator

For more details on these settings, refer to the table in the Understanding Environment Protection section.

Steps to Enable Environment Protection

The steps below explain how to enable environment protection feature after you upgrade.

To enable the environment protection feature after you upgrade:

1. Start iFIX.
2. Shut down View and the WorkSpace if either is running.
3. If you want to use the Disable Pop-up Menu option, open the FixUserPreferences.ini file in the C:\Program Files\Proficy\Proficy iFIX\Local folder. In the [AppRunPreferences] section, make the following change:

   ```
   PopUpMenu=0
   ```

   When the PopUpMenu=1, then the right-click pop-up menu is not available. When this value is set to 0, the pop-up menu is available in View.
4. To set the other environment settings, open the Proficy iFIX WorkSpace.
5. In Classic view, on the WorkSpace menu, click User Preferences.

   -Or-

   In Ribbon view, on the Home tab, in the WorkSpace group, click Settings, and then click User Preferences.
6. Select the Environment Protection tab.
7. Select the Enable Run Time Environment Protection check box. After you enable this setting, the check boxes below become available.
8. Select the options that you want to enable. Use the table in the Understanding Environment Protection section as a guide when assigning these options.

   NOTE: *After you enable the environment protection feature in WorkSpace, you must shutdown View (if it is still running) and restart it for the environmental protection settings to apply.*

   IMPORTANT: *If you plan to use environment protection when iFIX is running as a service, be sure to add TSFE.EXE to your Windows Startup program group. TSFE.exe is an iFIX application (located in your iFIX install folder) that enables task switching and keyboard filtering when a new user logs into Windows. By adding TFSE.exe to your startup group, you are ensuring that users can log into Windows with environment protection enabled and then operate iFIX in an appropriate, secured environment.*

Understanding Environment Protection

The following table outlines common tasks you may want to restrict operators from doing in the run-time environment, and the environmental option associated with each task.

To restrict an operator from...	**Select this check box...**
Closing the current picture displaying in View or the Proficy iFIX WorkSpace (in run mode).	Disable Title Bar and Menu Bar. ***NOTE:*** *Be sure to also select the Full Screen in Run mode check box from the General tab and clear the Title bar and Resizeable check boxes from the Picture Preferences tab*.
Switching from View or the Proficy iFIX WorkSpace (in run mode) to another application that may be running.	Disable Task Switching
Restarting the computer using Ctrl+Alt+Del or logging out of Windows when running View or the Proficy iFIX WorkSpace (in run mode).	Disable <Ctrl><Alt><Del>
Using the Proficy iFIX WorkSpace menu or switching to the configuration environment (while in run mode).	Disable "WorkSpace" Menu Pulldown
Accessing the Visual Basic Editor from the Proficy iFIX WorkSpace (while in run mode).	Disable VBE Access.
Using the Ctrl+O or Ctrl+P shortcuts in the Proficy iFIX WorkSpace (while in run mode).	Disable "WorkSpace" File Menu Accelerators
Using the Ctrl+O shortcut in the Proficy iFIX WorkSpace (while in run mode).	Disable Open Accelerator
Using the Ctrl+P shortcut in the Proficy iFIX WorkSpace (while in run mode).	Disable Print Accelerator

Setting up for Remote OPC Server Access

Before you can access remote OPC servers in iFIX, such as through the Discover and Auto Configure (DAC) application and the OPC Client driver, you must make sure that your firewall settings are correct (if you are using Windows XP, Windows Vista or Windows 2008), and that the DCOM settings for your operating system are correct.

You may not be able to access remote OPC servers if these settings are not correctly set. For more detailed information on configuring these settings, refer to the following topics:

- Setting Up the Windows XP, Vista, or Windows Server 2008 Firewall for Use with Remote OPC Servers
- Setting Up DCOM for Use with Remote OPC Servers

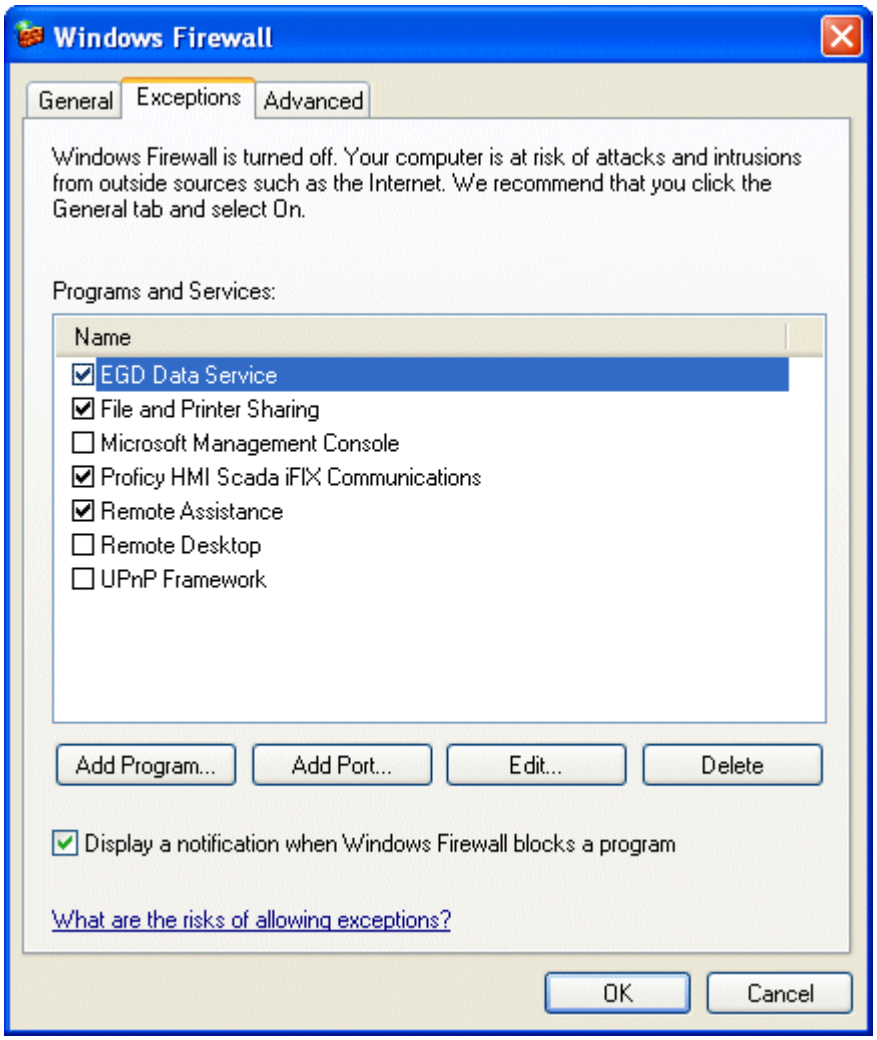
Setting Up the Windows XP, Vista, or Windows Server 2008 Firewall for Use with Remote OPC Servers

If Firewall security is enabled on Windows XP, Windows Vista, or Windows 2008 you may need to modify or add items to the Exceptions list.

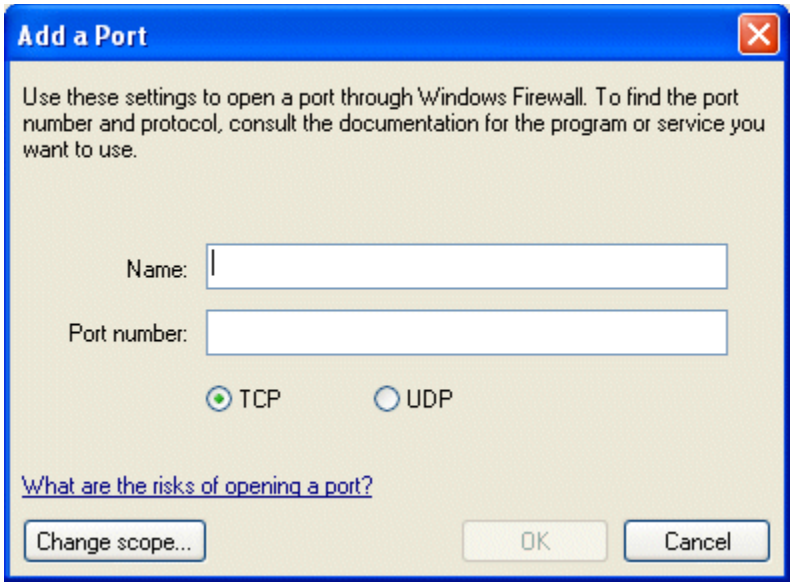
It is recommended that you enter these settings on the local machine running iFIX, as well as on the remote machine that has the OPC server you want to use.

To modify Windows Firewall settings:

1. Log into the Windows operating system with an Administrator account.
2. Open the Control Panel and double-click Windows Firewall. The Windows Firewall dialog box appears. For the Windows Vista operating system, you also need to click the "Allow a program through Windows firewall" option.
3. Click the Exceptions tab and make sure that the File and Printer Sharing check box is selected. The following figure shows an example of this dialog box in Microsoft Windows XP.

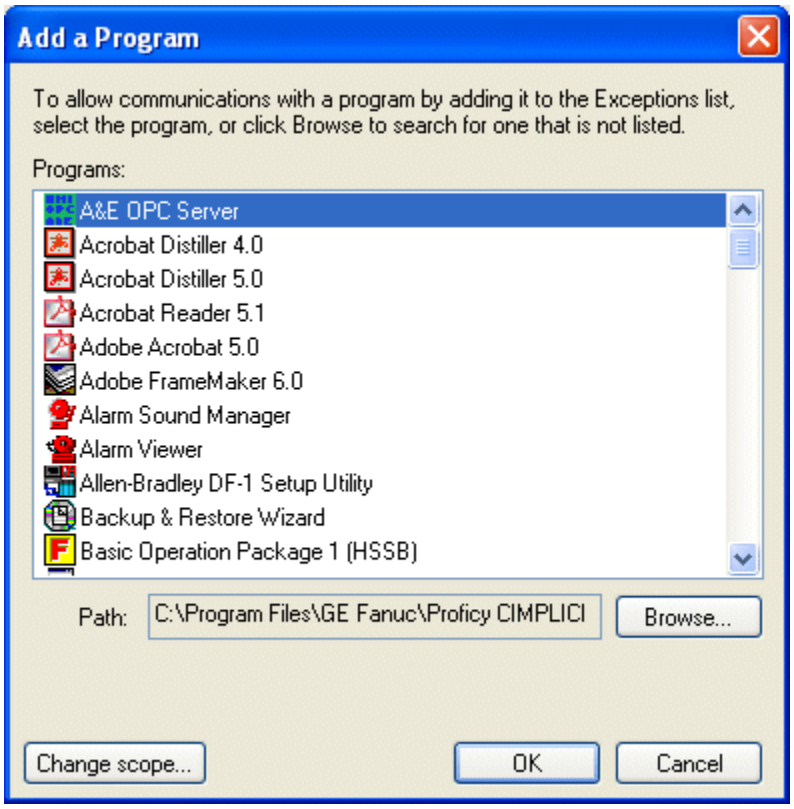


4. Click the Add Port button. The Add a Port dialog box appears. The following figure shows an example of this dialog box in Microsoft Windows XP.

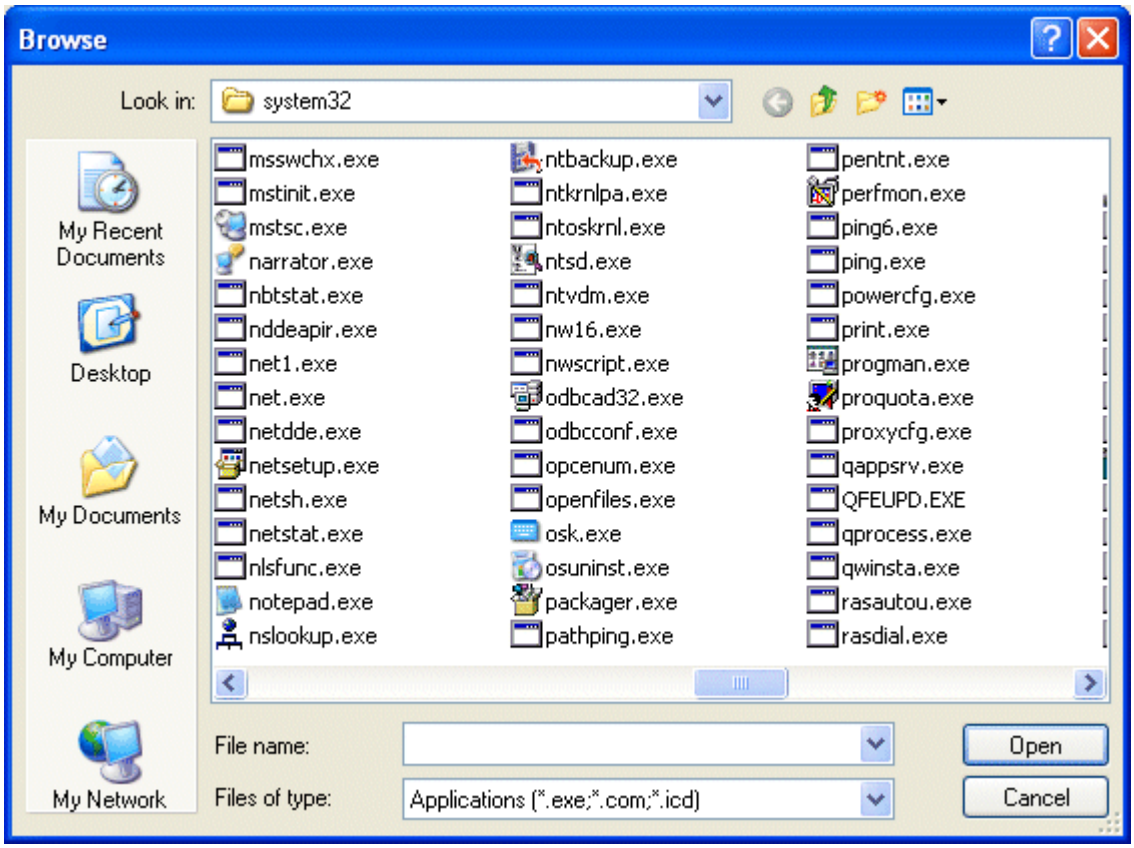

Add a Port
Use these settings to open a port through Windows Firewall. To find the port number and protocol, consult the documentation for the program or service you want to use.
Name:
Port number:
TCP
UDP
What are the risks of opening a port?
Change scope...
OK
Cancel

5. In the Name field, enter a name for the port.
6. In the Port Number field enter 135.
7. Select the TCP option.
8. Click OK to save your changes.

   The port name you entered is now listed with its check box selected.
9. Select the Add Program button. The Add a Program dialog box appears. The following figure shows an example of this dialog box in Microsoft Windows XP.

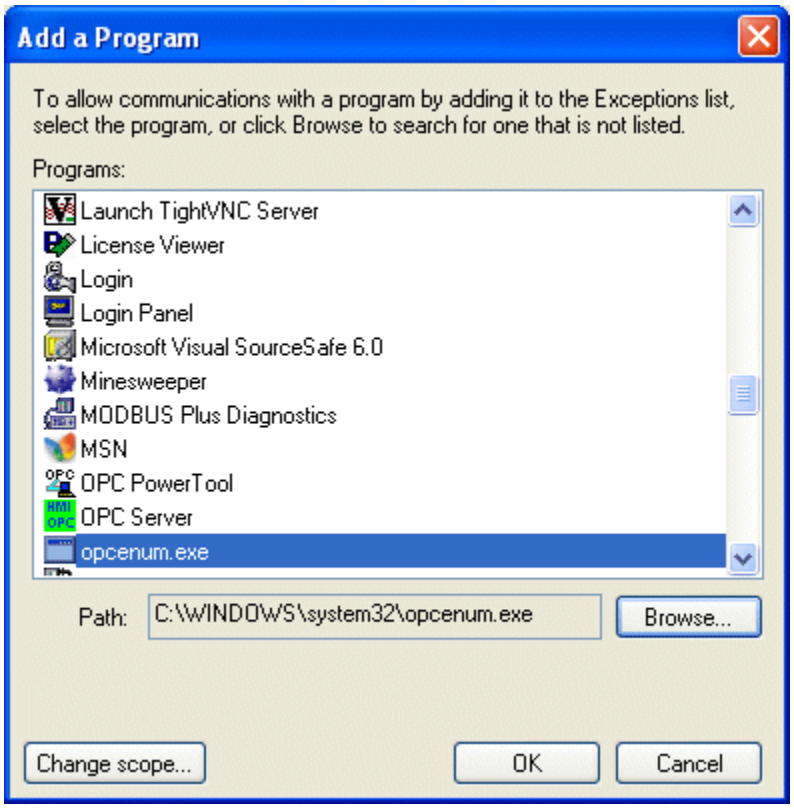


10. Click the Browse button. A Browse dialog box appears.



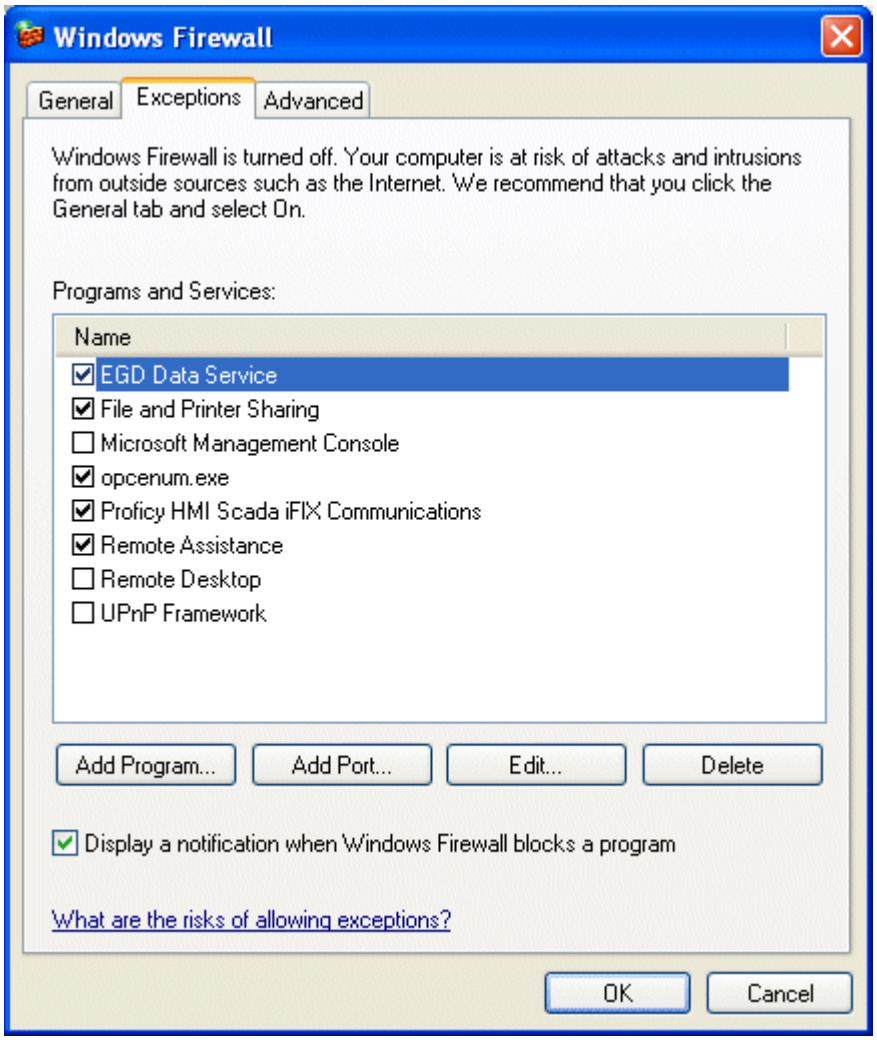
11. Navigate to the System32 folder. This folder is found under the operating system folder (usually Windows or WINNT).
12. In the System32 folder, select the OPCENUM.exe file, and then click the Open button.

    In the Add a Program dialog box the path field displays the full path to, and including, the OPCENUM.exe file.



13. Click OK.

    OPCENUM.exe should now be listed in the Exceptions list with its check box selected.



14. Complete steps 9-13 for each OPC server that you want to access.

NOTES:

- *If any OPC server that you want to use is a dll surrogate (an in-process dll and not an .exe), you must add \system32\dllhost.exe into the Exceptions list.*

- *You must also add the GE Intelligent Platforms OPC Client driver by adding the file OPCDrv.exe into the Exceptions list.*

- *OPCENUM must reside on the remote machine with the OPC server. While most OPC Server applications install and register this file, some do not. You can download this file from www.opcfoundation.org. Currently it is contained within the OPC Core Components 2.00 Redistributable 2.30.msi file. After you download OPCENUM, run the .msi file.*

Setting Up DCOM for Use with Remote OPC Servers

iFIX supports DCOM (Distributed Component Object Model) to browse remote OPC Servers. If you want to grant only certain users permission to launch or access the remote OPC servers, you can use the Windows utility, DCOMCNFG.EXE for configuring DCOM applications. DCOMCNFG.EXE is usually located in your operating system's \system32 folder.

When OPC Servers register, they set up initial custom DCOM security settings to enable users on the network to access and launch the Server. On large networks, it is recommended that you modify these settings to avoid confusion and inadvertent changes to a running OPC Server.

If Firewall security is enabled on Windows XP, Windows Vista, or Windows 2008, you must also modify or add items to the Exceptions list. Refer to Setting Up the Windows XP or Vista Firewall for Use with Remote OPC Servers.

IMPORTANT NOTES:

- *It is recommended that all users that need to access remote OPC Servers be members of the Administrators group. To facilitate this, it is recommended that you create a users group to contain individual users that need to access remote OPC servers.*

- *For example, for the Discover and Auto Configure application, create a group named "DAC" and add those users who will log into the operating systems and access remote OPC servers. Add the users Tom, Denise, and Harry into the DAC group. Each of these users will also be added into the Administrators group. This DAC group should also contain the following built-in security principals: INTERACTIVE; NETWORK; SYSTEM.*

- *To make any OPC Client / OPC Server application work via DCOM, changes need to be made on both sides, especially if you intend to use Asynchronous I/O communications.*

- *OPCENUM must reside on the remote machine with the OPC server. While most OPC Server applications install and register this file, some do not. You can download this file from www.opcfoundation.org. Currently it is contained within the OPC Core Components 2.00 Redistributable 2.30.msi file. After you download OPCENUM, run the .msi file.*

- *This section applies to OPC servers that need to use DCOM communications, regardless of whether the OPC server uses Serial or Ethernet devices.*

- *If OPC communications is confined to a single machine (that is, using COM, but not DCOM), it continues to work properly without making changes to DCOM settings.*
- *If you do not plan to use iFIX to connect remotely to OPC servers, then you may not need to change your DCOM settings.*
- *If this is the first time you are connecting to (or allowing connections from) other machines on the network, you must run the Windows Network Wizard (from Start > Control Panel) to set up your computer to run on your network. This allows you to share resources on your computer with other computers on your network. It is recommended that you run the Network Setup Wizard before modifying the DCOM settings.*

DCOM Settings

The following procedures provide general guidelines for configuring DCOM settings. Differences between Windows 2003, Windows XP, Windows Vista, and Windows 2008 are noted.

To launch the DCOM configurator:

1. From the Start menu, select or type Run. The Run dialog box appears.
2. Type dcomcnfg and click OK. The Component Services dialog box appears.

System-wide COM/DCOM Limits Settings

This procedure modifies the system-wide DCOM settings for the computer on Windows XP, Windows Vista, and Windows 2008 operating systems. When these steps are implemented, they apply to all programs that use COM/DCOM communications on the computer.

IMPORTANT: *Be careful when making any system-wide security changes. Any inadvertent changes may affect the entire system and may cause some or all programs to stop working.*

For Windows XP, Windows Vista, and Windows 2008:

To update system-wide COM/DCOM limits settings:

1. On the Component Services dialog box, expand Component Services, then expand the Computers item.
2. Right-click My Computer and choose Properties. The My Computer Properties dialog box appears.
3. Click the COM Security tab. There are four permissions on this dialog box.

You may need to make changes to the Edit Limits… for Access Permissions and Launch and Activation Permissions.

Do not change the Edit Default… settings, since this will change the default settings for all programs and applications running on the computer.

4. Click Access Permissions > Edit Limits… The Access Permission dialog box appears.
   a. Select the user labeled ANONYMOUS LOGON, and then select the Allow check box for Remote Access.

      NOTE: *This setting is necessary for applications that use OPCenum.exe to function and also for some OPC Servers and OPC Clients that set their DCOM 'Authentication Level' to 'None' to allow anonymous connections. If you do not use such applications, you may not need to enable remote access for anonymous logon users.*

   b. Select the user labeled Everyone, and then select the Allow check box for Remote Access.

      IMPORTANT: *Since "Everyone" includes all authenticated users, it is recommended to add these permissions to a smaller subset of users. One way of doing this is to create a Group named "OPC" and add all user accounts to this Group that will access any OPC server. Then substitute "OPC" everywhere that "Everyone" appears in the entire DCOM configuration dialogs.*

   c. Click OK to close the Access Permissions dialog box and return to the My Computer Properties dialog box.
5. Click Launch and Activation Permissions > Edit Limits… The Launch Permission dialog box appears.

   For each user or group (preferably add the "OPC" group) that needs to launch or activate the OPC server, or participates in OPC / DCOM communications, make sure that the Local Launch, Remote Launch, Local Activation, and Remote Activation check boxes are selected.

6. Click OK to save your changes, then click OK again to save and close the My Computer Properties dialog box.

OPC Server-specific DCOM Settings

The following procedures detail the OPC server-specific COM/DCOM settings on all supported Windows operating systems. You must change the OPC server settings so remote users can access the OPC server as an OPC Data Access Server. This procedure is also necessary for the GE Intelligent Platforms OPC Client driver to connect to, launch, configure, and start the remote OPC servers.

It is recommended that all users requiring access to remote OPC servers be members of the Administrators group.

IMPORTANT: *Since the "Everyone" group includes all authenticated users, it is recommended to add these*

permissions to a smaller subset of users.

It is recommended that you create a group to contain individual users that need to access remote OPC servers. It is also recommended that all users who require access to remote OPC Servers be members of the Administrators group.

For example, for Discovery and Auto-Assembly Component, create a group named "DAC" and add those users who will log into the operating systems and access remote OPC servers. Add the users Tom, Denise, and Harry into the DAC group. Each of these users will also be added into the Administrators group. This DAC group should also contain the following built-in security principals: INTERACTIVE; NETWORK; SYSTEM. Then substitute "DAC" everywhere that "Everyone" appears in the entire DCOM configuration dialogs.

▸ To modify driver-specific DCOM settings:

In Windows 2003

1. Access the DCOM configurator (dcomcnfg.exe). The Component Services dialog box appears.
2. Expand the Component Services item, then expand the Computers item, and then expand the My Computer item.
3. Select the DCOM Config object. A list of applications displays.
4. Right-click the OPC server you want to modify and choose Properties. The <Selected OPC Server> Properties dialog box appears.
5. Click the General tab. The Authentication Level should be left as "Default". This uses the default authentication rules that are set in the system-wide DCOM settings.
6. Click the Location tab and make sure that the Run Application on this computer check box is selected.
7. Click the Security tab and select the Customize option for each of the permissions in this dialog box and edit them as described in the following steps.
8. In the Launch Permissions area, click Edit. The Launch Permissions dialog box appears.
9. Click the Add button. The Select Users and Groups dialog box appears.
10. Click the Advanced Button. The Select Users and Groups dialog box appears.
11. Click the Find Now button. In the search results, select the OPC group and click OK. The Select Users and Groups dialog box displays the OPC group.
12. Click OK to return to the Launch Permission dialog box. The OPC group is displayed in the Group or user names list.
13. Select the OPC group and select the Allow check box for Launch Permission.
14. Click OK to return to the <Selected OPC Server> Properties dialog box.
15. In the Access Permissions area, click Edit. The Access Permission dialog box appears.

16. Click the Add button. The Select Users and Groups dialog box appears.
17. Click the Advanced Button. The Select Users and Groups dialog box appears.
18. Click the Find Now button. In the search results, select the OPC group and click OK. The Select Users and Groups dialog box displays the OPC group.
19. Click OK to return to the Access Permission dialog box. The OPC group is displayed in the Group or user names list.
20. Select the OPC group and select the Allow check box for Access Permission.
21. Click OK to return to the <Selected OPC Server> Properties dialog box.
22. In the Configuration Permissions area, click Edit. The Change Configuration Permission dialog box appears.
23. Click the Add button. The Select Users and Groups dialog box appears.
24. Click the Advanced Button. The Select Users and Groups dialog box appears.
25. Click the Find Now button. In the search results, select the OPC group and click OK. The Select Users and Groups dialog box displays the OPC group.
26. Click OK to return to the Change Configuration Permission dialog box.
27. Select the OPC group and select the Allow check boxes for Full Control and Read,
28. Click OK to return to the <Selected OPC Server> Properties dialog box.
29. Click OK.
30. Repeat steps 2 through 29 for each OPC server you need to access remotely.
31. When you are done, close the Component Services dialog box.

In Windows XP, Windows Vista and Windows 2008

1. Access the DCOM configurator (dcomcnfg.exe). The Component Services dialog box appears.
2. Expand the Component Services item, then expand the Computers item, and then expand the My Computer item.
3. Select the DCOM Config object. A list of applications displays.
4. Right-click the OPC server you want to modify and choose Properties. The <Selected OPC Server> Properties dialog box appears.
5. Click the General tab. The Authentication Level should be set to “Default,” if it is not already. This uses the default authentication rules that are set in the system-wide DCOM settings.
6. Click the Location tab and make sure that the "Run Application on this computer" check box is selected.
7. Click the Security tab and select the Customize option for each of the permissions in this dialog box

and edit them as described in the following steps.

8. In the Launch and Activation Permissions area, click Edit. The Launch Permission dialog box appears for Windows XP, or the Launch and Activation Permission dialog box appears for Windows Vista and Windows 2008.
9. Click the Add button. The Select Users or Groups dialog box appears.
10. Click the Advanced Button. Another Select Users or Groups dialog box appears.
11. Click the Find Now button. In the search results, select the OPC group and click OK. The Select Users or Groups dialog box displays the OPC group.
12. Click OK to return to the Launch Permission dialog box. The OPC group is displayed in the Group or user names list.
13. Select the OPC group and then select the Allow check boxes for Local Launch, Remote Launch, Local Activation, and Remote Activation permissions.
14. Click OK to return to the <Selected OPC Server> Properties dialog box.
15. In the Access Permissions area, click Edit. The Access Permission dialog box appears.
16. Click the Add button. The Select Users or Groups dialog box appears.
17. Click the Advanced Button. Another Select Users or Groups dialog box appears.
18. Click the Find Now button. In the search results, select the OPC group and click OK. The Select Users or Groups dialog box displays the OPC group.
19. Click OK to return to the Access Permission dialog box. The OPC group is displayed in the Group or user names list.
20. Select the OPC group and then select the Allow check boxes for Local Access and Remote Access permissions.
21. Click OK to return to the <Selected OPC Server> Properties dialog box.
22. In the Configuration Permissions area, click Edit. The Change Configuration Permission dialog box appears.
23. Click the Add button. The Select Users or Groups dialog box appears.
24. Click the Advanced Button. Another Select Users or Groups dialog box appears.
25. Click the Find Now button. In the search results, select the OPC group and click OK. The Select Users or Groups dialog box displays the OPC group.
26. Click OK to return to the Change Configuration Permission dialog box. The OPC group is displayed in the Group or user names list.
27. Select the OPC group and then select the Allow check boxes for Full Control and Read permissions.
28. Click OK to return to the <Selected OPC Server> Properties dialog box.
29. Click OK.

30. Repeat steps 2 through 29 for each OPC server you need to access remotely.
31. When you are done, close the Component Services dialog box.

Windows Operating System Considerations

When using iFIX in newer versions of Windows, be aware of the following limitations when working with these products:

- **GE Intelligent Platforms OPC Client Driver** – If you want to run the OPC Client driver as a service, iFIX must also run as a service. Likewise, if you want to run iFIX as a service, the OPC Client driver must run as a service. You cannot run one as a service, without the other also running as a service.

  If you want to run the OPC Client driver, be sure to check with the vendor of your OPC Server software to see if your OPC Server supports the operating system that you want to use.

- **Third-Party OPC Servers** – Be aware that at the time of the iFIX release there were a limited number of OPC Servers supported on newer versions of Windows. iFIX was tested with the OPC20iFIX.exe (Intellution.OPCiFIX) Server – an OPC 2.05a (out of process) Data Server.
- **Terminal Server** – iFIX does not support running a Terminal Server on Windows 7 or Windows Vista. However, these users can connect to a Terminal Server node running Windows Server 2003 or Windows 2008 with RDP 6.0 AND 6.1.
- **Drivers and DAC** – If you want to run a driver on a newer operating system, be sure to check with the vendor of your driver software to see if your driver supports the operating system. Your driver must support your operating system to interface with the Discover and Auto Configure (DAC) application.
- **Biometric Toolkit** – The iFIX Biometric Toolkit is supported only if you have a biometric solution that is compatible with your operating system.
- **VisiconX –** Make sure that your data sources use UNC pathing, rather than mapped network drives. For example, use a path like this: \\myserver\users\\mydb.mdb, instead of this: d:\myserver\users\mydb.mdb for your data source. Otherwise, you may experience connection errors.
- **PMON –** The GE Intelligent Platforms diagnostic utility PMON.exe does not work when iFIX is running as a service in versions of Windows after XP.
- **Proficy Portal Control –** For best performance in Windows, it is recommended that when you insert Proficy Portal control into your iFIX picture, that you do not insert any other ActiveX controls into the same picture.
- **Upgrading –** If you are upgrading your iFIX install, be aware that Microsoft does not recommend upgrading Windows XP or 2003 to the newer versions of the Windows operating system.

Additionally, be aware of the following differences when working with iFIX in Microsoft Windows:

- **Security –** Microsoft Windows includes many new security enhancements in the newer operating systems. Due to these enhancements, there may be changes you need to make for the users who run

iFIX. For more information, refer to the Windows and Security section.

- **Drive Mapping –** Security and data protection enhancements may require you to use data sources with UNC pathing, as opposed to mapped network drives. For more information, refer to the Windows and Mapped Network Drives section.
- **Sleep Mode –** Be aware that an iFIX View node running on a version of Windows after XP will lose its connection to the iFIX network when going into "Sleep" mode.

Windows and Security

After Windows XP, the basic user groups changed. There are three main types: Administrators, Users, and Guests. The Power Users group can exist; however, it is a modified version of the standard Users group. Like Power Users, the standard Users group allows for some of the rights granted to Administrators, but not all.

As an Administrator, you have all of the rights you need to operate a SCADA node (start and stop iFIX), as well as running iFIX as a service. However, if you want to allow a user not in the Administrators group to operate an iFIX SCADA node or run iFIX as a service, you need to make some adjustments to the user rights.

To allow a non-Administrator to operate an iFIX SCADA node, you need to add the individual user or group to the "Create Global Objects" policy. If you want the user or group to run iFIX as a service, then you need to run the GrantUserFixServiceRights command for the user or group.

To allow a user who is not an Administrator to operate an iFIX SCADA node:

1. Log in as an Administrator.
2. Click the Start button, and in the Search box, type secpol.msc and press Enter. The Local Security Policy window appears.
3. In the tree, double-click Security Settings, and then Local Policies, to view the contents of the Local Policies folder.
4. Click the User Rights Assignment item to view the policies.
5. Double-click the Create Global Objects policy. The Create Global Object Properties dialog box appears.
6. Click Add User or Group. The Select Users or Groups dialog box appears.
7. Enter an individual user name, or group name, such as "iFIXUsers."
8. Click OK to add the user.

To allow a user who is not an Administrator to run iFIX as a service:

1. Click the Start button, and in the Search box, type Command Prompt and press Enter. If the Command Prompt does not appear immediately, double-click the Command Prompt from the list of results.
2. In the Command Prompt window, type:

   `GrantUserFixServiceRights GRANT FIX` *`USERNAME`*

   where *FIX* is the name of the service (iFIX) that you want to grant rights to, and *USERNAME* is the name of the user or group that you want to grant rights to.

Running iFIX as a Service with Other Services

If you plan to run iFIX as a service along with other services such as the iFIX scheduler, the OPC A&E Server, and the OPC DA Server, make sure that your user has the rights to start/stop/pause all of those services. A user who is a member of the Administrators group usually has all these privileges. (This can be verified by opening the Windows service control panel and checking if the Start/Stop setting is enabled.) To grant a user who is a standard user rights to start/stop/pause these services, log in to Windows as an Administrator and run the following commands:

```
GrantUserFixServiceRights GRANT IFIXSCHEDULER username
GrantUserFixServiceRights GRANT IFIXOPCAESRV username
GrantUserFixServiceRights GRANT IFIXOPCDA username
```

Examples: Using GrantUserFixServiceRights

If you want to allow a user named QA1 to run iFIX as a service, type:

```
GrantUserFixServiceRights GRANT FIX QA1
```

If you want to allow all members of the group “iFIXUsers” to run iFIX as a service, type:

```
GrantUserFixServiceRights GRANT FIX "iFIXUsers"
```

If you later need to revoke the right to run iFIX as a service, use the following command:

```
GrantUserFixServiceRights REVOKE FIX USERNAME
```

where *FIX* is the name of the service that you want to revoke rights from, and *USERNAME* is the name of the user or group that you want to revoke rights from.

Windows and Mapped Network Drives

In newer versions of Windows, when you elevate an application and it runs under a different context, the application may or may not be related to the user who is logged in. As a result, drive mappings are not available in an elevated session unless you specifically map them while it is elevated.

To resolve this issue, make sure that your system data sources use UNC pathing, rather than mapped network drives. For example, use a path like this: \\myserver\users\\mydb.mdb, instead of this: d:\myserver\users\mydb.mdb for your data source. Otherwise, you may experience connection errors. Be sure to select the "Remember my password" check box in the Connection dialog box when setting up your UNC pathing. By doing this, the next time you log in, your connection will succeed without failing.

For example, you add a system data source (ODBC) with a mapped network drive for use with VisiconX. When you configure a VisiconX data control and select a data source on the Database tab, an error appears (error number -2147467259 indicates that you do have a valid path). To resolve this issue, configure your data source with UNC pathing instead.

EDA Applications and Windows

When running an iFIX Easy Database Access (EDA) application on newer versions of Windows, you may experience errors due to inadequate permissions. For instance, the logged in user may not have enough permissions to create the necessary global memory that the application requires, or the user may not be running an application with the fullest permissions (running elevated).

The "Allocation of Shareable Memory Failed" message is one of the messages that can appear in this scenario. To resolve these types of issues, elevate the application to the fullest privileges.

▸ To mark an application for elevation using an external manifest:

1. Create a text file named yourappname.exe.manifest, where yourappname is the name of the application you want to elevate.
2. In a text editor such as Notepad, open yourappname.exe.manifest.
3. Paste the following lines of code into the text file:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>

<assembly xmlns="urn:schemas-microsoft-com:asm.v1" manifestVersion="1.0">

  <assemblyIdentity version="1.0.0.0"

     processorArchitecture="X86"

     name="yourappname"
```

```
   type="win32"/>
  <description>Description of your application</description>
  <!-- Identify the application security requirements. -->
  <trustInfo xmlns="urn:schemas-microsoft-com:asm.v2">
    <security>
      <requestedPrivileges>
        <requestedExecutionLevel
          level="highestAvailable"
          uiAccess="false"/>
        </requestedPrivileges>
       </security>
  </trustInfo>
</assembly>
```

4. Save the file in the same folder as the yourappname.exe, where yourappname is the name of the application you want to elevate.

   TIP: *If yourappname.exe was built with an internal manifest, yourappname.exe will ignore the external manifest created in the above manner. Instead, you need rebuild the application with the new elevation information.*

   IMPORTANT: *If you have run the executable before performing the above steps and it failed to work, see this link for information on adding a manifest after the fact: http://blogs.msdn.com/vistacompatteam/archive/2006/11/13/manifest-and-the-fusion-cache.aspx.*

To mark an application for elevation with an internal manifest:

- Build your application's executable (.exe) file with the elevation information built into it. Be aware of issues with fusion cache when you use an external manifest file. For more information, refer to the MSDN web site: http://blogs.msdn.com/vistacompatteam/archive/2006/11/13/manifest-and-the-fusion-cache.aspx.

  For more information on User Account Control (UAC), refer to the Microsoft web site: http://www.microsoft.com/downloads/details.aspx?familyid=ba73b169-a648-49af-bc5e-a2eebb74c16b&displaylang=en.

To elevate a third party application that you do not own the source code for:

Microsoft recommends writing a wrapper to invoke the application's executable (.exe) file in an elevated manner. If this is not feasible, the following is suggested:

- Create a shortcut (.lnk) to the yourappname.exe, where yourappname is the name of the application you want to elevate.
- Right-click the shortcut and select Properties. Configure the shortcut to run as an Administrator.

Other iFIX Installation Considerations

This chapter provides information you need to consider when using databases or drivers and iFIX. This information includes:

- Supported Drivers
- Special Keyboard Buttons

Supported Drivers

iFIX supports the following drivers:

- Version 6.x
- Version 7.1 or higher

NOTE: *Version 7.01 drivers have known issues with iFIX and are not supported.*

If you want to run a driver on the Microsoft Windows Vista or Windows Server 2008 operating system, be sure to check with the vendor of your driver software to see if your driver supports Vista.

Special Keyboard Buttons

Some computer keyboards have special buttons for e-mail launch, internet launch, search, and other functions. These keyboard buttons may disable certain key macros or allow users to circumvent iFIX security measures.

It is recommended that you reprogram or disable the software that operates such special buttons. Refer to your computer's documentation for instructions on disabling these buttons.

Networking

This chapter provides general information about the iFIX supported network protocol, supported network software, supported file servers, and installing network cards with Windows. Refer to the following sections for more information:

- Supported Networking Protocol
- Supported File Servers
- Handling Time Zones when Using Networked FIX 6.15 and iFIX Nodes
- Networking with Other iFIX and FIX Nodes

Supported Networking Protocol

If you decide to implement a networked iFIX system, make sure that all nodes are using compatible network configurations. iFIX supports TCP/IP interfaces for peer-to-peer communication. NetBIOS is no longer supported.

If you have difficulty networking your computer, refer to the Troubleshooting chapter of the Setting Up the Environment manual to pinpoint and resolve your problems.

Supported File Servers

GE Intelligent Platforms supports using a file server to store System Configuration Utility, alarm area database, security, historical, and recipe data files and file server-based iClients. iFIX does not require a file server.

The following operating systems for file servers are recommended:

- Microsoft Windows Server 2003.
- Novell NetWare. If you use a NetWare file server, it is recommended that you use Microsoft's Client Service for NetWare on your iFIX node.

Refer to your file server documentation for installation and configuration instructions.

If a file server becomes unavailable and an iFIX node attempts to access a file, you may experience no response, slow response, or time-outs. These conditions are a result of continuously polling all available drives

while it waits for a response from the file server. It is recommended that you store a backup copy of the files you need on the local node. It is not recommended that you use the file server for files if it is susceptible to failure.

Handling Time Zones when Using Networked FIX 6.15 and iFIX Nodes

In FIX 6.15, time zones are ignored when passing alarms over the network. For example, if a FIX 6.15 node in Boston (Eastern Standard Time), generates an alarm at 4:00 PM, then a FIX 6.15 node in Chicago (Central Standard Time) displays that alarm with a time stamp of 4:00 PM.

By comparison, iFIX uses time zones and adjusts the time stamp accordingly. For example, if an iFIX node in Boston generates an alarm at 4:00 PM, another iFIX node in Chicago displays the alarm with a time stamp of 3:00 PM.

When FIX 6.15 and iFIX transfer alarms over the network, the time zone handling is similar to FIX 6.15 as the following table shows.

When...	**Then...**
A FIX 6.15 node in Boston generates an alarm at 4:00 PM	An iFIX node in Chicago displays the alarm with a time stamp of 4:00 PM.
An iFIX node in Boston generates an alarm at 4:00 PM	A FIX 6.15 node in Chicago displays the alarm with a time stamp of 4:00 PM.

Networking with Other iFIX and FIX Nodes

iFIX can share data and alarms with previous versions of iFIX, as well as with FIX32 6.15 and FIX v7.0. FIX32 view nodes will only receive alarms from alarm areas A-P.

IMPORTANT: *You cannot run iFIX and FIX v7 at the same time on a single computer.*

Contact GE Intelligent Platforms

If you purchased this product through a GE Intelligent Platforms Authorized Channel Partner, please contact them directly.

General Contact Information

Online Technical Support & GlobalCare: www.ge-ip.com/support

Comments about our manuals or online help: doc@ge.com

Additional Information: www.ge-ip.com

Solution Provider: solutionprovider.ip@ge.com

Authorization: authorization.ip@ge.com

Technical Support

If you have technical problems that cannot be resolved with the information in this guide, please contact us by telephone or email, or on the web at www.ge-ip.com/support.

Americas

Online Technical Support: www.ge-ip.com/support

Phone: 1-800-433-2682

International Americas Direct Dial: 1-434-978-5100

Technical Support Email: support.ip@ge.com

Customer Care Email: customercare.ip@ge.com

Primary language of support: English

Europe, the Middle East, and Africa (EMEA)

Online Technical Support: www.ge-ip.com/support

Phone: +800 1-433-2682

Technical Support Email: support.emea.ip@ge.com

Customer Care Email: customercare.emea.ip@ge.com

Inside Sales: insidesales.emea.ip@ge.com

Primary languages of support: English, French, German, Italian, Czech, Spanish

Asia Pacific

Online Technical Support: www.ge-ip.com/support

Phone: +86-400-820-8208

+86-21-3217-4826 (India, Indonesia, and Pakistan)

Technical Support Email: support.cn.ip@ge.com (China)

support.jp.ip@ge.com (Japan)

support.in.ip@ge.com (remaining Asia customers)

Customer Care Email: customercare.apo.ip@ge.com

customercare.cn.ip@ge.com (China)

When You Have Questions

Most questions deal with setup or normal operations. Our support representatives can normally answer these questions immediately. When you call:

- Have your contract number ready. Your contract number is an eight-digit number that is a combination of your company's six-digit identification number and a two-digit extension that identifies the product you are using. It can be found on your invoice and in the body of your original packing list from GE Intelligent Platforms. If you are a member of our Extended Support Services program, your contract number is also on your customer support PhoneCard.
- Be next to your computer so that the engineer can step you through the proper procedure.
- Be familiar with your product's documentation so that the engineer can direct you to information on related topics.
- Have the names and version numbers of the I/O drivers in use.
- Know the HMI Application you are using.
- Know the type of operating system you are using and the version number of your software.

Assistance

When you call for assistance with software that does not perform as you expect, the answer usually has to do with your computer's setup. You should be able to answer the following questions when you call:

- What is the nature of the problem? Be as specific as possible.
- Can you reproduce the problem easily? List the steps.
- Can you still reproduce the problem after disabling all unnecessary third-party software?
- Do you encounter any error messages? What are they?
- What types of hardware are you using? List model numbers.

Index

.

.CSV files 72

.RCX file....72

.RCX files....84

.RCY file....72

.RCY files....84

.RPT File....76

A

ActiveWindow object....65

adding passwords to .RPT file....76

Advanced Historian, not supported with iFIX....63

B

backing up FIX files....74

backup, file server files....119

buttons, special keyboard....117

C

color mapping errors....65

computers, recommended for iFIX....14

D

Database Dynamos

iFIX installation....67

updating....66

Database Dynamos....66

database migration....83

date format, supported....21

demo mode troubleshooting....18

disabling iFIX as a service....25

disk space requirements....15

driver configuration, exporting....72

E

environment protection....73

exporting

driver configuration....72

security configuration report....76

exporting....76

F

file server

backup files....119

recommended types 119
file server 119
FIX
files, restoring after upgrade 80
I/O driver configuration 82
FIX 82
FIX 6.15, time zone considerations 120
FIX 7.0,starting after installing iFIX 46
FIX 7.x
drivers 46
using with iFIX 46
FIX 7.x 46
FIX Desktop 71
FixUserPreferences.ini 15
format, time and date 21
FreeDiskSpace parameter 15
functionality conversion, Database Dynamos 79

G

getting started, iFIX 1
GrantUserFixServiceRights 112

H

hardware
optional 50
requirements for iFIX 4
hardware 4
hardware requirements
memory 15
recommended computers 14
hardware requirements 14
HASP 19

I

I/O drivers
preparing for upgrade 72
verifying upgrade and database migration 83
I/O drivers 83
iFIX
hardware requirements 4
installation failure 67
memory requirements 15
new title bar 61
online registration 45
optional hardware 50
paths 25
picture compatibility 64

previous version compatibility....65
recommended computers....14
recommended file servers....119
recommended video drivers....24
regional settings....21
resolving displays....65
software requirements....19
supported drivers....117
supported file servers....119
supported network protocol....119
upgrading from iFIX 2.5 and earlier....55
using with FIX....46
using with Microsoft Office....47
iFIX....14
iFIX 2.5, upgrading from....55
iFIX environment, iFIX nodes....3
iFIX installation
Dynamo sets....67
overview....3
iFIX installation....3
iFIX SIMs....79
iLicense file....55
importing
recipe files....84
security configuration....84
importing....84
installing iFIX
after uninstalling iVisualize....47
newest drivers....79
product USB key....16
with FIX v7....46
installing iFIX....46
insufficient disk space....15

K

keyboard, special buttons....117

L

language support....22
limitations....111

M

mappings....114
memory
optimizing....24
requirements....15
memory....15

Microsoft Office and iFIX 47

N

networked FIX 6.15 and iFIX nodes 120

networks

supported in iFIX 119

networks 119

new user 1

O

optimizing virtual memory 24

optional hardware for iFIX 50

overview

iFIX installation 3

upgrading from iFIX to FIX Desktop 78

overview 78

P

passwords

in .RPT file 76

reconfiguring 85

passwords 85

PDB folder 72

pictures

compatibility in earlier versions of iFIX 64

converting from FIX to iFIX 65

created in an older version of iFIX 65

from iFIX 2.1 65

pictures 65

preparing for iFIX with FIX Desktop upgrade 71

preserving settings when upgrading 57

Process Database 79

Proficy GlobalCare Support web site 79

Proficy Historian and iFIX 62

R

RCC folder 72

RCM folder 72

Recipe Builder 84

recipe files 72

reconfiguring passwords after upgrade to FIX Desktop 85

recovery, improper USB key install 16

registration for iFIX 45

reports

security configuration 76

system configuration 77

reports 77

requirements

iFIX hardware....4
iFIX software....19
memory....15
requirements....15
resolving iFIX displays....65
restoring backed up files....80
running iFIX as a service
iFIX paths....25
required application feature....25
Terminal Server....25
Windows Services....25
running iFIX as a service....25

S

security configuration
exporting....76
importing....84
security configuration....84
Security.RPT....76
software requirements....19
special keyboard buttons....117
starting up FIX 7.0 after iFIX install....46
SuperPro....19
supported
file servers....119
iFIX drivers....117
networks....119
supported....119
system configuration report....77
System Configuration Utility....72

T

time format, supported....21
time zones....120
toolbars....62
toolbars, imported....62

U

upgrading
from FIX 7.x....78
iFIX permissions....62
older pictures....65
preserving settings....57
to iFIX with FIX Desktop....71
USB key....55
upgrading....55
USB key

described....16
installing....16
parallel port....16
recovery for improper installation....16
recovery from improper install....16
replacing defective....18
serial number....16
troubleshooting....18
upgrading....55
USB port....16
USB key....16
user globals, iFIX upgrade considerations....62
using iFIX with Microsoft Office....47

V

verifying I/O driver and database migration....83
video drivers
recommended....24
third-party....24
video drivers....24
virtual memory
optimizing for iFIX....24
virtual memory....24
Vista limitations....111

W

Windows virtual memory....24
Windows Vista....111, 112, 114
Windows Vista limitations....111
Windows XP windows styles....62